

AD_____

Award Number: W81XWH-11-2-0203

TITLE: Nurse Education, Center of Excellence for Remote and Medically Under-Served Areas (CERMUSA)

PRINCIPAL INVESTIGATOR: Jay B. Roberts, MA, CERMUSA Director

CONTRACTING ORGANIZATION: Saint Francis University, Loretto, PA 15940

REPORT DATE: April 2014

TYPE OF REPORT: Final Report

PREPARED FOR: U. S. Army Medical Research and Materiel
Command
504 Scott Street
Fort Detrick, Maryland 21702-5012

DISTRIBUTION STATEMENT:



Approved for public release; distribution unlimited

The views, opinions and/or findings contained in this report are those of the author (s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.



REPORT DOCUMENTATION PAGE			<i>Form Approved</i> OMB No. 0704-0188		
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) FÂN*ã↔→ÁG€FH		2. REPORT TYPE Final Report		3. DATES COVERED (From - To) 12SEPT11 - 31MAR14	
4. TITLE AND SUBTITLE Nurse Education, Center of Excellence for Remote and Medically Under-Served Areas(CERMUSA)		5a. CONTRACT NUMBER .			
		5b. GRANT NUMBER ÛÎFVÛÒËFFËGË€G€Ğ			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S) Jay B. Roberts, MA, Director go ckn'ò ltqy rcpf B egto wuc0t cpeku0gf w		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Saint Francis University Loretto, PA 15940		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT Nurses constitute the largest sector of the healthcare workforce within the United States. This study is based upon prior research, review of the literature, and feedback from key stakeholders at the local, state, and national level that indicates significant gaps in knowledge, skills, and attitudes among medical providers who respond to disasters. The study aimed to identify and validate the following for military/civilian disaster response: evidence-based nursing competencies; disaster response and educational curriculum to support these competencies; continuing nursing education/training curriculum which supports evidence-based nursing competencies; and to identify and test technology that can be used in the delivery of disaster preparedness education. Phase I explored the reliability of using alternative, technologically-enhanced mobile educational content delivery models in delivering disaster education content. This proved to be effective. Changes in knowledge, skills and attitudes among nursing students resulting from disaster preparedness education/training received in core nursing curriculum were also evaluated. Phase II determined, via a national survey of deans of baccalaureate-level nursing programs, if those programs adequately prepare nurses to respond to disasters. In Phase III, lessons learned from Phase I regarding the use of technology to deliver disaster preparedness education, and the deficiencies in disaster-nursing competency-based education identified in Phase II were used to develop and deliver evidence-based disaster competency education applications related to disaster communications and disaster preparedness plans for healthcare providers who respond to disasters. Pre-test post-test results indicated that the delivery of didactic material via an online course management system is an effective mechanism to provide disaster preparedness education to healthcare students. However, a survey of study participants indicated that the majority of the respondents did not believe their curriculum adequately prepared them to respond to a disaster in all areas surveyed. The exception was educating them on basic lifesaving and support principles and procedures that can be utilized at a disaster scene. The majority (68.42%) indicated that they received adequate training in this area. Therefore, it is critical that nurses receive appropriate training in disaster nursing and disaster response.					
15. SUBJECT TERMS: Competencies, Continuing Healthcare Education, Disaster Preparedness, Distance Learning/Education, Information/Wireless Technology, Mobile Learning Platform, Nursing, Telemedicine/Telehealth					
16. SECURITY CLASSIFICATION OF: U			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 151	19a. NAME OF RESPONSIBLE PERSON USAMRMC
a. REPORT U	b. ABSTRACT U	c. THIS PAGE U		19b. TELEPHONE NUMBER (include area code)	

TABLE OF CONTENTS

	Page
Standard Form 298	2
Report of Inventions and Subcontracts – DD Form 882	3
Table of Contents	4
Staffing List	5
Publications and Presentations	6
Body	8
Key Research Accomplishments	9
Reportable Outcomes	15
Conclusion	16
References	18
Appendices	
▪ Appendix A	20
▪ Appendix B	25
▪ Appendix C	76
▪ Appendix D	101

STAFFING LIST
Nurse Education Project

STAFF MEMBER	ROLE
Steven Bickford	Technology Coordinator
Gabrielle M. Cronin	Instructional Designer
James F. Gerraughty	Program Manager
Brenda L. Guzik	Assistant Director for Telehealth
Jennifer L. Irvin	Programmer/Systems Analyst
Jean A. Kline	Administrative Assistant (DL)
Dawna R. Knee	Technology Coordinator
Lori A. McClellan	Health Research Communications Specialist
Eric S. Muncert	Telehealth Research Specialist
Jay B. Roberts	Director
Mary Jane Rowland	Finance/Business Manager
Michael E. Shanafelt	Senior Programmer/Systems Analyst
Jacob Taylor	Information Technology Systems Administrator
Kent P. Tonkin	Assistant Director for Information Technology
Christine Trimbath	Part time - Telehealth Research Specialist
David M. Wolfe	Wireless Communications Specialist
Bernadette A. Yeager	Research Logistics Specialist

Publications and Presentations
Nurse Education Project
September 2011 to March 2014

Articles Submitted for Publication

- Strengthening Nursing Curriculum To Support Humanitarian Assistance and Disaster Preparedness Competencies: A National Survey – submitted to the peer-reviewed journal *Nurse Education in Practice*
- Strengthening Nursing Curriculum To Support Humanitarian Assistance and Disaster Preparedness Competencies: A Competencies Crosswalk - submitted to the peer-reviewed journal *Nurse Education in Practice*

Publications – Published Quarterly

SFU DiSepio Institute for Rural Health and Wellness & CERMUSA Newsletters, Loretto, PA

Presentations

- Guzic, B. & Trofino, R. (November 2013) – Oral presentation: *Strengthening Nursing Curriculum to Support Humanitarian Assistance and Disaster Preparedness Competencies*. 2013 AANC Baccalaureate Education Conference, New Orleans, LA
- Guzic, B. (September 2013) – Poster presentation: *Strengthening Nursing Curriculum to Support Humanitarian Assistance and Disaster Preparedness Competencies*. Learning in Disaster Health: A Continuing Education Workshop, Georgetown University, Washington, DC
- Guzic, B. & Trofino, R. (September 2013). Oral presentation: *Disaster Management & Humanitarian Assistance for Healthcare Providers*. Rural Telehealth and Advanced Technologies Conference: Fall 2013 Updates for Healthcare Providers, Loretto, PA

**Saint Francis University's
Center of Excellence for Remote and Medically
Under-Served Areas (CERMUSA)**

**Nurse Education – CERMUSA
FY10 End of Project Report
(September 12, 2011 to March 31, 2014)**

Protocol Title: Strengthening Nursing Curriculum to Support Humanitarian Assistance and Disaster Preparedness Competencies

Protocol No.: 10-TATOP1103-10 (Award # W81XWH-11-2-0203)

Date: April 2014

Principal Investigators

Brenda L. Guzik, MHSc, MA, BSW, RN - Assistant Director for Telehealth

Jay B. Roberts, MA - Director, CERMUSA/DiSepio Institute

Body

Phase I:

Phase I of this research evaluated changes in knowledge, skills, and attitudes among nursing students as a result of disaster preparedness education and training received in their core nursing curriculum. This was done through a pre-test/post-test format. In addition, the effectiveness of utilizing a mobile learning platform in the delivery of disaster preparedness education and training was evaluated. Four mobile learning platforms (Apple iPhone, Apple iPad with cover, Apple iPad without cover, and Motorola Android) were evaluated utilizing an online Mobile Learning Platform Technology Evaluation tool. Through the use of the Mobile Learning Platform Technology Evaluation tool (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012):

- End-user requirements were identified
- Technical procedures for establishing and disseminating information were identified
- Technical barriers to offering the program in rural, remote, and underserved areas were identified
- The knowledge gains of the study subjects who utilize the content implemented in the research were identified

Phase II:

Phase II of the study sought to determine if baccalaureate-level nursing programs adequately prepare nurses to respond to disasters. A national survey of deans of baccalaureate-level nursing programs throughout the United States was conducted to identify the amount of disaster nursing being taught, the methods used to deliver content, and the outcomes achieved. Sampling included schools accredited by the Commission on Collegiate Nursing Education (CCNE) and the National League for Nursing Accrediting Commission (NLNAC). A total of 870 nursing programs were included in this national sample. A total of 269 individuals began the survey and 190 (71%) completed it (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012).

Phase III:

Nurses are considered trusted professionals and will be considered as leaders of efforts to promote effective care to victims of disasters. Hence, lessons learned from Phase I regarding the use of technology (handheld devices, web-based instructional design, and the Internet) to deliver disaster preparedness education, and the deficiencies in disaster-nursing competency-based education identified in Phase II were used to develop and deliver evidence-based disaster competency education applications related to disaster communications and disaster preparedness plans for healthcare providers who respond to disasters. In Phase III the following tasks and objectives were completed:

- Communications and disaster plan preparedness modules were developed and uploaded into the Moodle Course Management System (CMS)
- Pre-test and post-test were developed and uploaded into the Moodle CMS
- Student survey was developed and uploaded into the Qualtrics Online Survey tool

- Student participation (nursing, physician assistant, occupational therapy, physical therapy) portions of the study were completed. Participants completed the following:
 - Online didactic portion
 - Online pre-test and post-test
 - Online survey
- Statistical validity:
 - The study investigators enrolled 134 participants. Reasonably good and statistically significant information can be gotten from this number of responses
- Data analysis was completed with assistance of the CERMUSA biostatistician
- Two articles were developed and submitted to a peer-reviewed journal

Summary of project progress:

- There were no voluntary withdrawals of subjects from the study
- There were no adverse reactions occurring during or as a result of this study
- There were no injuries occurring during or as a result of this study
- Delay in approval: A delay in receiving approval from TATRC to proceed with the protocol made it necessary to make adjustments to the timeline and deliverables
- Departure of associate investigators: Two associate investigators left the organization and were not replaced. This necessitated making adjustments to protocol assignments and delayed the research process resulting in delays in the development of the online disaster education modules (survey, pre-test and post-test, and didactic portion), testing of Internet connectivity, and enrollment of study subjects
- Coordination of study schedules: University curriculum schedules are well established and include predetermined content, lab time, and clinical experiences as dictated by their respective credentialing organizations. Therefore, delays were encountered in direct response to the availability of student participants related to students fulfilling required coursework

Through this research, more will be trained on how to provide education in disaster preparedness to increase knowledge, understanding, and judgment thus minimizing health hazards and life-threatening issues to vulnerable populations during the disaster management cycle.

Key Research Accomplishments

Phase I:

- The end-users' (nursing students) were recruited and consented (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)
- Four technologies (Motorola Android, Apple iPod, Apple iPad with cover, Apple iPad without cover) were selected and used in delivering the distance education module to the students (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)
- The four technologies were evaluated by the student participants via a technology evaluation survey and results were tabulated (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)

- An online course management system was used to administer the pre-test, didactic course content, post-test, and survey (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)
- The knowledge gains of the study subjects were measured via comparisons between the online pre-test and post-test results (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)

Phase II:

- Disaster Nursing Competencies Survey was developed (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)
- Nurse Disaster Preparedness Advisory Board, made up of disaster nursing subject matter experts from across the country, was convened to review the survey and make recommendations for revisions (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)
- Disaster Nursing Competencies Survey distributed online via Qualtrics Survey software (Qualtrics Survey Software, 2012) to Deans of Bachelor of Nursing programs using lists from the NLNAC and CCNE (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)
- Results from the Competencies Survey were tabulated. Findings revealed that progress has been made in some areas of disaster nursing education (incident management, risk communication, nursing and public health indicators, and ethics). However, significant gaps still remain in baccalaureate-level nursing programs regarding the prioritization of disaster nursing education and the adoption of disaster nursing evidence-based competencies into baccalaureate-level nursing curricula. The relevant gaps in basic disaster nursing concepts that were identified included personal preparedness, professional preparedness, surge capacity (inclusive of hospital evacuations), and legal preparedness on standards related to infection control and emergency response planning (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)
- Based on the findings from the national survey, four recommendations were identified to comprehensively address the gaps in disaster nursing and to drive increased integration of disaster nursing education into BSN curricula:
 - BSN programs should consider adding evidence-based personal preparedness, professional preparedness, surge capacity (inclusive of hospital evacuations), and legal preparedness on standards related to infection control and emergency response planning
 - BSN programs should consider adding an annual disaster drill or exercise as part of the emergency response curriculum
 - BSN programs should include a minimum of eight contact hours of evidence-based disaster nursing curriculum
 - BSN programs should continue to explore evidence-based competency outcomes for disaster nursing education

Phase III:

- Study participants were successfully recruited from the Saint Francis University School of Health Sciences (nursing, occupational therapy, physical therapy, physician assistant students)
- Disaster communication protocols and personal and professional disaster preparedness plan training modules were developed, tested, and uploaded into an online course management software program for dissemination to the study participants (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
- Pre-test/post-test were developed for each module and uploaded into an online course management software program for dissemination to the study participants (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
 - Study participant survey was developed and uploaded into the online Qualtrics Survey tool (Qualtrics Survey Software, 2012). (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
- Study participants (nursing, occupational therapy, physician assistant, and physical therapy students) completed the:
 - Online Survey (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
 - Online Pre-tests and post-tests (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
 - Online didactic portion (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
- Data was tabulated and sent to the CERMUSA biostatistician, Dr. Liu, for analysis and reporting:
 - Results are displayed in:
 - SCORE – All Groups (Appendix A)
 - Summary Statistics from Disaster Preparedness Survey (Appendix B)
 - Graphic Display of Study Score Data (Appendix C)
 - Survey Summary (Appendix D)
 - Results showed an improvement from pre-test to post-test scores, indicating that the delivery of didactic material via an online course management system is an effective mechanism to provide disaster preparedness education to healthcare students
 - The majority of the respondents did not believe their curriculum adequately prepared them to respond to a disaster in the areas listed below. For a complete report, refer to Appendix D:
 - Their role as professional healthcare providers in responding to disasters
 - Development of a professional/personal and family disaster plan
 - Their role as students within the incident management hierarchy
 - Mechanism for reporting actual and potential health threats
 - Mechanism for obtaining situational awareness of actual/potential health hazards related to a disaster
 - General indicators and epidemiological clues
 - Measures to maintain situational awareness

- Effective communications
- How to identify authoritative sources and resources
- Principles of crisis and emergency risk communications
- Appropriate strategies to share information
- Cultural issues and challenges
- Personal safety measures
- General health, safety, and security risks
- Risk reduction measures
- Surge capacity
- Impact of mass casualties
- Principles and practices of providing disaster clinical management
- Physical and mental health consequences
- The role of triage
- Public health principles and practices
- Public health consequences
- Identifying functional and access populations needs
- Strategies to address and engage functional and access needs populations
- Common public health interventions
- Ethical principles to protect the health and safety of all
- Ethical issues likely to be encountered in a disaster
- Ethical issues associated with crisis standards of care and allocation of scarce resources
- Legal principles/statutes and legal/regulatory issues
- Short and long-term considerations for disaster recovery
- Clinical and public health considerations/consequences during the disaster recovery phase
- Strategies for increasing resilience of individuals and communities
- Importance of monitoring mental and physical health impacts
- Ninety-one students (68.42%) did believe that there curriculum adequately prepared them in one area related to disaster response (education of students on basic lifesaving and support principles and procedures that can be utilized at a disaster scene); however another 30 students (22.56%) did not, and 12 other students (9.02%) were unsure

Military Significance:

Although military nursing has improved dramatically over the years, the need for continued education and research is of vital importance. The traditional scope of war, as well as the role of a military nurse, has changed dramatically over the past century. Due to “high tech” conflicts and wars against terrorism being fought around the globe, nurses are required to expand their knowledge base to include the cultural awareness of host nations, health values and beliefs, and an understanding of the mission port health delivery systems. This is in addition to their role of caring for the sick and injured.

Military nurses are routinely deployed for humanitarian assistance and disaster response missions throughout the world. To prepare for future military humanitarian missions, nurses turn to resources and lessons learned from past humanitarian assistance and disaster response

missions (Almonte, 2009). However, accounts by military nurses show that the content of such after-action reports rarely contain items related to nursing practice and that they specifically lack detailed information that would be helpful for nurses to improve future performances (Almonte).

Although past experiences are excellent resources, they very seldom are sufficient. This study hopes to address these deficiencies by identifying the minimum knowledge base required for such preparedness and establishing best practices necessary for such education. Since Department of Defense (DoD) personnel stand to benefit from this exercise, use of DoD funds is well justified. The need for research into the development and evaluation of a humanitarian assistance and disaster response plan for military and civilian nurses is important to help them gain a better understanding of their role, as well as to enhance the value of the mission.

This project, using health science students (nursing, physician assistant, occupational therapy, and physical therapy), provided an opportunity to study how emergency healthcare responders would react to patient care environments that are best described as austere and resource limited environments.

- How do healthcare providers (emergency responders) respond to disasters?
- How do they know what to do and how to best react?
- Are there differences in decision-making and outcomes that can be explained by level of preparation and educational curriculum?

These are phenomena of interest as we move forward to develop policy, educational curricula, and preparedness activities at the federal, state, and local level. In Phase III of this study, disaster response education modules that include real-world scenarios were designed to inform and create learning opportunities to enhance disaster preparedness and response.

According to the American Public Health Association (2008), “In a rapidly changing world facing natural and man-made disasters as well as threats of terrorism and pandemics, nurses will be needed to serve in the event of a disaster.” We owe it to those who we have failed, those who have died as result of our lack of preparedness, and those who serve our country and others in the continued war on terror, to look critically at how we are preparing nurses for pandemic and all-hazards disaster response.

- Are nurses, and other first responders, who arrive to participate in, or lead, response efforts, prepared to an acceptable level?
- Can JIT (just-in-time) education and training, via hand-held devices, sufficiently enhance the disaster preparedness and response competencies of nurses and other first responders?
- Do they have the types of resources that they need to have?

In order to answer these questions, we looked specifically at the impact of identifying competencies and in implementing education and training using mobile applications.

Public Purpose:

This research is relevant to the field of nursing and nursing education. All response to disaster is ultimately a local responsibility. As a result, nurses will be called to serve if and when disaster strikes a community. The better we understand the phenomena in question, the better prepared

we can be as a nation. According to Veenema, “In the aftermath of the World Trade Center disaster, nurses were eager to offer assistance, but many lacked proper training in communicating with disaster management teams and in specific skills that are helpful when dealing with victims and their families” (p. 94). Weiner, Irwin, Trangenstein & Gordon (2005) surveyed nursing schools throughout the country and found that these schools provided only about four hours of content in the area of disaster preparedness and that this had not significantly changed since the events of 9/11.

Nurses are considered trusted professionals and will be looked to in disasters as leaders of efforts to promote effective care to victims. Studying the impact of disaster preparedness education on nurses can provide insight into the skills and core competencies relative to disaster response. This can serve to inform us about changes that might be important in undergraduate and graduate nursing curriculum in order to better prepare the work force for all-hazards response.

According to James, Subbarao, & Lanier (2008), optimum sharing of ideas regarding disaster medicine and public health is contingent upon input from, and cooperation among, government agencies (all levels), physicians, basic scientists, epidemiologists, public health experts, engineers, logistics experts, economists, mass communication experts, meteorologists, and others (p. 560). The rationale for pursuing this research originates from the knowledge that nurses will be integral to the disaster response process. More often than not, they will be called upon to lead these efforts. The International Nursing Coalition for Mass Casualty Education (INCMCE) identified core competencies for entry level nurses, as well as professional role development for nurses, to include how to be a direct care provider and a member of the planning response team (2003).

Historically, multiple failures in preparedness and response have produced less than acceptable outcomes. Challenges include real-time situational awareness, integration within incident command, interoperable communications, rapid medical triage, field stabilization of victims, and rapid transport to definitive medical care (Marcozzi, Sanders & Vanderwagen, 2007, p. 6). Additionally, the literature suggests that disaster situations may require a set of specific competencies. According to MacFarlane, Joffe & Naidoo (2006), there is an increasing need for specially trained professionals in disaster management, especially in developing countries where resource constraints may be significant.

Legislation such as the Pandemic All-Hazards Preparedness Act of 2006 (PAHPA), represents significant effort by the U.S. to address the shortcomings experienced in disaster preparedness and response. It specifically calls for core health and medical response curricula and training response by adapting applicable existing curricula and training programs to improve responses to public health emergencies (S.3678-29). Have we incorporated the intent of the PAHPA legislation as we prepare nurses for disaster response? Legislation has the effect of mobilizing large amounts of money to improve coordination and response to disasters. What is unclear is how to translate competencies and education to improved patient outcomes during an actual disaster. There is a lack of literature addressing these questions.

Success or failure of the policy will be measured by the ability of the nation first and foremost to respond locally to the next disaster that strikes. Recent literature reflects on the need to develop

and validate mass casualty models so that disaster response remains coordinated and effective (Culley & Effken, 2010). In order to effectively do this, however, we need to better understand the workforce and the competencies required by this workforce. These efforts can then translate evidence-based solutions to ensure that these competencies are established and maintained.

Reportable Outcomes

Phase I:

- Analysis of data as it relates to the knowledge gains of the study subjects and the results of the technology evaluations from Phase I was reported in the Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012

Phase II:

- Disaster Nursing Competencies Survey was developed and distributed via Qualtrics Survey software to Deans of Nursing (Bachelor of Nursing programs) across the United States (Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012)
- Results from the Competencies Survey were tabulated and findings indicated that while there were many topic areas that baccalaureate-level nursing programs included in their curricula, the following relevant gaps in basic disaster nursing concepts were identified:
 - Personal preparedness
 - Professional preparedness
 - Surge capacity (inclusive of hospital evacuations)
 - Legal preparedness on standards related to infection control and emergency response planning
- The survey did reveal that progress has been made in the following areas of disaster nursing education:
 - Incident management
 - Risk communication
 - Nursing and public health indicators
 - Ethics
- Based on the findings from the national survey, the following four recommendations were identified to comprehensively address the gaps in disaster nursing and to drive increased integration of disaster nursing education into BSN curricula:
 - BSN programs should consider adding evidence-based personal preparedness, professional preparedness, surge capacity (inclusive of hospital evacuations), and legal preparedness on standards related to infection control and emergency response planning
 - BSN programs should consider adding an annual disaster drill or exercise as part of the emergency response curriculum
 - BSN programs should include a minimum of eight contact hours of evidence-based disaster nursing curriculum
 - BSN programs should continue to explore evidence-based competency outcomes for disaster nursing education

Phase III:

- Year-to-date the following manuscripts, abstracts, or presentations have been generated:

- American Association of Colleges of Nursing – Baccalaureate Nursing Conference – New Orleans, LA – November 2013 – PowerPoint Presentation – (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
- Learning in Disaster Health: A Continuing Education Workshop – Washington, D.C. – September 2013 – Poster Presentation. *Recipient of Outstanding Poster* (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
- Rural Telehealth Conference – September 2013 – PowerPoint Presentation – (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
- Strengthening Nursing Curriculum To Support Humanitarian Assistance and Disaster Preparedness Competencies: A Competencies Crosswalk – submitted to the peer-reviewed journal *Nurse Education in Practice* (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
- Strengthening Nursing Curriculum To Support Humanitarian Assistance and Disaster Preparedness Competencies: A National Survey – submitted to the peer-reviewed journal *Nurse Education in Practice* (Nurse Education – CERMUSA FY10 Annual Report September 14, 2012 to November 30, 2013)
- Resources on disaster preparedness are needed because content on disaster preparedness in U.S. nursing programs remains limited (Ruder, 2012). Organizations that accredit schools of nursing do require some degree of content on disaster preparedness. However, the degree may be variable related to the accrediting body and/or the schools location. Nonetheless, nurses could be left feeling ill-prepared to function in a disaster situation.

Conclusion

This study is relevant to the field of nursing and nursing education as it relates to disaster preparedness competencies. As trusted professionals, nurses are considered leaders of efforts to promote effective care to victims of disasters. The need for research into the development and evaluation of a humanitarian assistance and disaster response plan for military and civilian nurses is important to help them gain a better understanding of their role, as well as to enhance the value of the mission. This study can serve to inform us about changes that might be important in undergraduate and graduate nursing curriculum in order to better prepare both the civilian and military workforce for all-hazards response.

Based on the data generated from this study, the Center of Excellence for Remote and Medically Under-Served Areas (CERMUSA) anticipates the dissemination of nursing competencies for military disaster response to the Tri-Services (Navy, Army, and Air Force). In addition, the results of this study may provide evidence for deploying other emerging learning technologies as tools for future phases of this effort. These tools may include the integration of medical simulation (on-site and at a distance) and interactive virtual worlds. With the growing robustness of cloud-based technologies and individual device processing power (i.e. tablet computers, smart phones) content could be transformed into increasingly realistic-yet-accessible distribution methodologies, including interactive games and online scenarios. These efforts will likely build upon CERMUSA's previous documented successes in these fields (Medical Simulation at a Distance) and the knowledge base of our Principal Investigators, Associate Investigators/Subject

Matter Experts, and consultants. Based on the results of this study, mobile content distribution could be used en masse to prepare medical staffs for deployment. A sample model would involve distributing pre-loaded mobile devices to these individuals prior to deployment to enable them to complete preparatory materials as time allowed. For example, a civilian reservist could view training materials on a handheld device while waiting for immunizations at a doctor's office. Additionally, these devices could be carried along during deployment to serve as digital handbooks or continued preparation/adaptation while in-theater. In addition, results may provide key insights into competencies required of the broader medical department staff and provide the basis for enhancing inter-professional and team-based training.

'So What' Section:

It is essential to recognize that perspective may differ between educators and students, and that a difference may exist between what is being taught and what is being learned. Therefore, changes may need to be made to curriculum to ensure that student nurses receive proper training in communicating with disaster management teams and in specific skills that are necessary when caring for and dealing with victims and their families.

Nurses are considered trusted professionals and encompass the largest proportion of the healthcare community. In times of disaster, nurses will be considered leaders of efforts to promote effective care to victims. Educated and prepared nurses will have the competencies to respond in a timely manner and provide appropriate care and interventions during a disaster. Therefore, the first step in disaster preparedness is education (Kirwin, 2011)

Following the disasters of 9/11 and Katrina, issues of policy creation and subsequent implementation in life and death situations were confronted and the value of national competencies and curricula in disaster health was recognized. This is at the heart of Homeland Security Presidential Directive 21 (HSPD-21), "Public Health and Medical Preparedness" of 18 October 2007. This directive reinforces the need for coordinated disaster response and competent medical intervention in order to save lives. This study evolved over a period of time and is based upon a belief that there is sound rationale for exploring the changes in knowledge, skills, and attitudes of nurses who are provided education and training prior to humanitarian assistance and disaster response.

References

- Almonte, A. (2009). Humanitarian nursing challenges: A grounded theory study. *Military Medicine*, 174(5), 479-485. Retrieved from Academic Search Premier Database.
- American Public Health Association. (2008). Disaster preparedness training critical for public health nurses. Retrieved from [http://www.apha.org/membergroups/newsletters/sectionnewsletters/public_nur/fall08/Disaster+ Preparedness+Training+Critical+for+Public+Health+Nurses.htm](http://www.apha.org/membergroups/newsletters/sectionnewsletters/public_nur/fall08/Disaster+Preparedness+Training+Critical+for+Public+Health+Nurses.htm)
- Commission on Collegiate Nursing Education (2012). The essentials of baccalaureate education from professional nursing practice. Retrieved from <http://www.aacn.nche.edu/education-resources/essential-series>
- Culley, J. M., & Effken, J. A. (2010). Development and validation of a mass casualty conceptual model. *Journal of Nursing Scholarship*, 42(1), 66-75.
- Homeland Security Presidential Directive / HSPD-21. Public health and medical preparedness. (October 18, 2007). Retrieved from <http://www.whitehouse.gov/news/releases/2007/10/2007/1018-10.htm>
- International Nursing Coalition for Mass Casualty Education. (2003). Educational competencies for registered nurses responding to mass casualty incidents. Retrieved from <http://www.nursing.vanderbilt.edu/incmce/competencies.html>
- James, J. J., Subbarao, I., & Lanier, W. L. (2008). Improving the Art and Science of Disaster Medicine and Public Health Preparedness. *Mayo Clinic Proceedings*, 559-562.
- Kirwan, M.M. (2011). Disaster planning: Are you ready? *Nursing Made Incredibly Easy!* 9(3), 18-24.
- MacFarlane, C, Joffe, A., Naidoo, S. (2006). Training of disaster managers at a master's degree level: From emergency care to managerial control. *Emergency Medicine Australasia*, 18, 451-456.
- Marcozzi, D., Sanders, M., & Vanderwagen, W. C. (2007). A nation prepared: Inspiration in the face of tragedy. *Disaster Medicine and Public Health Preparedness*, 1(Suppl. 1), S6.
- National League for Nursing Accrediting Commission Standards and Criteria (2008). Baccalaureate degree programs in nursing. Retrieved from http://www.nlnac.org/manuals/SC2008_BACCALAUREATE.htm
- Nurse Education-CERMUSA FY10 Annual Report - September 12, 2011 to September 11, 2012
- Nurse Education-CERMUSA FY10 Annual Report - September 14, 2012 to November 30, 2013

Pandemic and All-Hazards Preparedness Act of 2006, Pub. L. No. 109-417, (2006).

Qualtrics Survey Software (2012). Retrieved from <http://www.qualtrics.com/why-survey-software>

Ruder, S. (2012). Emergency Preparedness for Home Healthcare Providers, *Home Healthcare Nurse*, 30(6), 355-362.

Veenema, T. (2006). Expanding educational opportunities in disaster response and emergency preparedness for nurses. *Disaster Response Education*, 27 (2), 93-99.

Weiner, E., Irwin, M. Trangenstein, P. & Gordon, J. (2005). Emergency Preparedness Curriculum in Nursing Schools in the United States. *Nursing Education Perspectives*, Nov/Dec., 26 (6), 334-339.

Appendix A

Table 1.1: SCORE - All Groups**Score: itt=1**

Score	Category	Nursing (13)	OT (40)	PA (46)	PT (33)	Total (132)	P value
PRE_PREP	N	13	40	46	33	132	0.1864 F
	MEAN \pm SD	6.00 \pm 1.41	6.08 \pm 1.65	5.93 \pm 1.27	6.61 \pm 1.20	6.15 \pm 1.41	
	MEDIAN	6.00	7.00	6.00	7.00	6.00	
	(Q1, Q3)	(6.0, 7.0)	(5.5, 7.0)	(5.0, 7.0)	(6.0, 8.0)	(6.0, 7.0)	
	(MIN, MAX)	(2.0, 8.0)	(0.0, 8.0)	(2.0, 8.0)	(4.0, 8.0)	(0.0, 8.0)	
	P-Paired	0.0000	0.0000	0.0000	0.0000	0.0000	
	P-Value		1 vs 2 0.8666 F	1 vs 3 0.8820 F 2 vs 3 0.6430 F	1 vs 4 0.1873 F 2 vs 4 0.1082 F 3 vs 4 0.0370 F		
POST_PREP	N	13	40	46	33	132	0.5029 F
	MEAN \pm SD	8.85 \pm 1.72	8.55 \pm 1.36	8.72 \pm 1.47	9.03 \pm 0.98	8.76 \pm 1.35	
	MEDIAN	9.00	8.50	9.00	9.00	9.00	
	(Q1, Q3)	(9.0, 10.0)	(8.0, 10.0)	(8.0, 10.0)	(9.0, 10.0)	(8.0, 10.0)	
	(MIN, MAX)	(4.0, 10.0)	(5.0, 10.0)	(4.0, 10.0)	(6.0, 10.0)	(4.0, 10.0)	
	P-Paired	0.0000	0.0000	0.0000	0.0000	0.0000	
	P-Value		1 vs 2 0.4956 F	1 vs 3 0.7632 F 2 vs 3 0.5694 F	1 vs 4 0.6794 F 2 vs 4 0.1349 F 3 vs 4 0.3142 F		
Change in PREP	N	13	40	46	33	132	0.6494 F
	MEAN \pm SD	2.85 \pm 1.34	2.48 \pm 1.89	2.78 \pm 1.32	2.42 \pm 1.46	2.61 \pm 1.54	
	MEDIAN	3.00	2.00	3.00	2.00	3.00	
	(Q1, Q3)	(2.0, 4.0)	(1.0, 3.0)	(2.0, 4.0)	(2.0, 3.0)	(2.0, 4.0)	
	(MIN, MAX)	(0.0, 5.0)	(-2.0, 8.0)	(0.0, 5.0)	(-1.0, 5.0)	(-2.0, 8.0)	

Table 1.1: SCORE - All Groups

Score: itt=1

Score	Category	Nursing (13)	OT (40)	PA (46)	PT (33)	Total (132)	P value
	P-Paired	0.0000	0.0000	0.0000	0.0000	0.0000	
	P-Value		1 vs 2 0.4546 F	1 vs 3 0.8964 F 2 vs 3 0.3604 F	1 vs 4 0.4074 F 2 vs 4 0.8895 F 3 vs 4 0.3128 F		
% Change in PREP	N	13	39	46	33	131	0.5624 F
	MEAN ± SD	52.43 ± 28.93	44.98 ± 44.95	51.60 ± 32.56	41.19 ± 29.43	47.09 ± 35.61	
	MEDIAN	50.00	33.33	50.00	42.86	42.86	
	(Q1, Q3)	(42.9, 66.7)	(14.3, 50.0)	(28.6, 66.7)	(25.0, 50.0)	(25.0, 66.7)	
	(MIN, MAX)	(0.0, 100.0)	(-28.6, 166.7)	(0.0, 150.0)	(-12.5, 100.0)	(-28.6, 166.7)	
	P-Paired	0.0000	0.0000	0.0000	0.0000	0.0000	
	P-Value		1 vs 2 0.5164 F	1 vs 3 0.9416 F 2 vs 3 0.3962 F	1 vs 4 0.3390 F 2 vs 4 0.6551 F 3 vs 4 0.2041 F		
PRE_COMM	N	13	40	46	33	132	0.5620 F
	MEAN ± SD	8.62 ± 0.87	8.03 ± 1.83	7.87 ± 2.04	7.97 ± 0.95	8.02 ± 1.66	
	MEDIAN	9.00	8.00	8.00	8.00	8.00	
	(Q1, Q3)	(8.0, 9.0)	(7.0, 9.0)	(7.0, 9.0)	(7.0, 9.0)	(7.0, 9.0)	
	(MIN, MAX)	(7.0, 10.0)	(0.0, 10.0)	(0.0, 10.0)	(6.0, 9.0)	(0.0, 10.0)	
	P-Paired	0.0000	0.0000	0.0000	0.0000	0.0000	
	P-Value		1 vs 2 0.2697 F	1 vs 3 0.1571 F 2 vs 3 0.6672 F	1 vs 4 0.2394 F 2 vs 4 0.8881 F		

Table 1.1: SCORE - All Groups

Score: itt=1

Score	Category	Nursing (13)	OT (40)	PA (46)	PT (33)	Total (132)	P value
3 vs 4 0.7929 F							
POST_COMM	N	13	40	46	33	132	0.3097 F
	MEAN ± SD	9.15 ± 2.03	8.40 ± 1.92	8.85 ± 0.89	8.67 ± 0.96	8.70 ± 1.42	
	MEDIAN	10.00	9.00	9.00	9.00	9.00	
	(Q1, Q3)	(10.0, 10.0)	(8.0, 10.0)	(8.0, 9.0)	(8.0, 9.0)	(8.0, 10.0)	
	(MIN, MAX)	(3.0, 10.0)	(0.0, 10.0)	(7.0, 10.0)	(7.0, 10.0)	(0.0, 10.0)	
	P-Paired	0.0000	0.0000	0.0000	0.0000	0.0000	
	P-Value		1 vs 2 0.0991 F	1 vs 3 0.4943 F 2 vs 3 0.1474 F	1 vs 4 0.2972 F 2 vs 4 0.4264 F 3 vs 4 0.5773 F		
Change in COMM	N	13	40	46	33	132	0.3296 F
	MEAN ± SD	0.54 ± 1.61	0.38 ± 1.21	0.98 ± 2.03	0.70 ± 0.88	0.68 ± 1.53	
	MEDIAN	1.00	0.00	1.00	1.00	1.00	
	(Q1, Q3)	(0.0, 1.0)	(0.0, 1.0)	(0.0, 1.0)	(0.0, 1.0)	(0.0, 1.0)	
	(MIN, MAX)	(-4.0, 2.0)	(-2.0, 3.0)	(-2.0, 10.0)	(-1.0, 2.0)	(-4.0, 10.0)	
	P-Paired	0.2520	0.0577	0.0021	0.0001	0.0000	
	P-Value		1 vs 2 0.7380 F	1 vs 3 0.3610 F 2 vs 3 0.0700 F	1 vs 4 0.7518 F 2 vs 4 0.3717 F 3 vs 4 0.4210 F		
% Change in COMM	N	13	39	44	33	129	0.6416 F
	MEAN ± SD	5.65 ± 21.71	5.73 ± 16.76	9.68 ± 18.17	9.57 ± 12.40	8.05 ± 16.75	
	MEDIAN	11.11	0.00	11.11	11.11	11.11	

Table 1.1: SCORE - All Groups

Score: itt=1

Score	Category	Nursing (13)	OT (40)	PA (46)	PT (33)	Total (132)	P value
	(Q1, Q3)	(0.0, 12.5)	(0.0, 16.7)	(0.0, 13.4)	(0.0, 14.3)	(0.0, 14.3)	
	(MIN, MAX)	(-57.1, 25.0)	(-28.6, 50.0)	(-22.2, 80.0)	(-12.5, 33.3)	(-57.1, 80.0)	
	P-Paired	0.3668	0.0392	0.0010	0.0001	0.0000	
	P-Value		1 vs 2 0.9875 F	1 vs 3 0.4495 F 2 vs 3 0.2884 F	1 vs 4 0.4786 F 2 vs 4 0.3376 F 3 vs 4 0.9766 F		

Appendix B

Table 2.01: Summary Statistics, Year of Study

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Year of Study, n (%)	OTHER		2 (5.0)	6 (12.8)	35 (100.0)	43 (32.1)
	SENIOR	12 (100.0)	38 (95.0)	41 (87.2)		91 (67.9)
Chi-square Test	P-value, Overall					<.001
Chi-square Test	P-value to Group 1		0.430	0.192	<.001	
Chi-square Test	P-value to Group 2			0.212	<.001	
Chi-square Test	P-value to Group 3				<.001	

Table 2.02: Summary Statistics, Do you consider your home town location to be

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Do you consider your home town location to be, n (RURAL	9 (75.0)	34 (85.0)	36 (76.6)	25 (71.4)	104 (77.6)
	URBAN	3 (25.0)	6 (15.0)	11 (23.4)	10 (28.6)	30 (22.4)
Chi-square Test	P-value, Overall					0.552
Chi-square Test	P-value to Group 1		0.422	0.908	0.811	
Chi-square Test	P-value to Group 2			0.324	0.152	
Chi-square Test	P-value to Group 3				0.596	

Table 2.03: Summary Statistics, Have you been involved in a disaster

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Have you been involved in a disaster, n (%)	NO	11 (91.7)	37 (92.5)	45 (95.7)	27 (77.1)	120 (89.6)
	YES	1 (8.3)	3 (7.5)	2 (4.3)	8 (22.9)	14 (10.4)
Chi-square Test	P-value, Overall					0.044
Chi-square Test	P-value to Group 1		0.924	0.566	0.270	
Chi-square Test	P-value to Group 2			0.517	0.061	
Chi-square Test	P-value to Group 3				0.011	

Table 2.04: Summary Statistics, Are you a member of an emergency response team

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Are you a member of an emergency response team, n	NO	12 (100.0)	40 (100.0)	47 (100.0)	34 (97.1)	133 (99.3)
	YES				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.415
Chi-square Test	P-value to Group 1		0.924	0.566	0.554	
Chi-square Test	P-value to Group 2			0.517	0.282	
Chi-square Test	P-value to Group 3				0.244	

Table 2.05: Summary Statistics, Do you believe your curriculum educates you on your expected rol

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Do you believe your curriculum educates you on you	NO	6 (50.0)	22 (55.0)	29 (61.7)	28 (80.0)	85 (63.4)
	UNSURE	1 (8.3)	8 (20.0)	10 (21.3)	4 (11.4)	23 (17.2)
	YES	5 (41.7)	10 (25.0)	8 (17.0)	2 (5.7)	25 (18.7)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.106
Chi-square Test	P-value to Group 1		0.437	0.156	0.026	
Chi-square Test	P-value to Group 2			0.655	0.044	
Chi-square Test	P-value to Group 3				0.136	

Table 2.06: Summary Statistics, Do you believe your curriculum prepares students to develop a pr

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Do you believe your curriculum prepares students t	NO	9 (75.0)	27 (67.5)	31 (66.0)	34 (97.1)	101 (75.4)
	UNSURE	2 (16.7)	9 (22.5)	14 (29.8)	1 (2.9)	26 (19.4)
	YES	1 (8.3)	4 (10.0)	2 (4.3)		7 (5.2)
Chi-square Test	P-value, Overall					0.022
Chi-square Test	P-value to Group 1		0.882	0.596	0.048	
Chi-square Test	P-value to Group 2			0.478	0.004	
Chi-square Test	P-value to Group 3				0.003	

Table 2.07: Summary Statistics, Do you believe your curriculum describes your role as a student

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Do you believe your curriculum describes your role	NO	5 (41.7)	23 (57.5)	29 (61.7)	30 (85.7)	87 (64.9)
	UNSURE	3 (25.0)	11 (27.5)	10 (21.3)	1 (2.9)	25 (18.7)
	YES	4 (33.3)	6 (15.0)	8 (17.0)	3 (8.6)	21 (15.7)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.050
Chi-square Test	P-value to Group 1		0.356	0.372	0.009	
Chi-square Test	P-value to Group 2			0.792	0.012	
Chi-square Test	P-value to Group 3				0.028	

Table 2.08: Summary Statistics, Do you believe your curriculum explains the mechanism for report

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Do you believe your curriculum explains the mechan	NO	2 (16.7)	14 (35.0)	20 (42.6)	29 (82.9)	65 (48.5)
	UNSURE		9 (22.5)	15 (31.9)	2 (5.7)	26 (19.4)
	YES	10 (83.3)	17 (42.5)	12 (25.5)	4 (11.4)	43 (32.1)
Chi-square Test	P-value, Overall					<.001
Chi-square Test	P-value to Group 1		0.036	<.001	<.001	
Chi-square Test	P-value to Group 2			0.237	<.001	
Chi-square Test	P-value to Group 3				<.001	

Table 2.09: Summary Statistics, Does your curriculum teach students how to develop a personal

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum teach students how to develop	NO	8 (66.7)	34 (85.0)	44 (93.6)	33 (94.3)	119 (88.8)
	UNSURE	2 (16.7)	2 (5.0)	2 (4.3)	1 (2.9)	7 (5.2)
	YES	2 (16.7)	4 (10.0)	1 (2.1)	1 (2.9)	8 (6.0)
Chi-square Test	P-value, Overall					0.145
Chi-square Test	P-value to Group 1		0.305	0.031	0.047	
Chi-square Test	P-value to Group 2			0.282	0.402	
Chi-square Test	P-value to Group 3				0.927	

Table 2.10: Summary Statistics, Does your curriculum educate students on mechanisms of obtaining

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on mechanism	NO	6 (50.0)	25 (62.5)	30 (63.8)	28 (80.0)	89 (66.4)
	UNSURE	2 (16.7)	2 (5.0)	11 (23.4)	4 (11.4)	19 (14.2)
	YES	4 (33.3)	13 (32.5)	6 (12.8)	3 (8.6)	26 (19.4)
Chi-square Test	P-value, Overall					0.021
Chi-square Test	P-value to Group 1		0.391	0.237	0.083	
Chi-square Test	P-value to Group 2			0.013	0.034	
Chi-square Test	P-value to Group 3				0.268	

Table 2.11: Summary Statistics, Does your curriculum educate students on general indicators and

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on general i	NO	2 (16.7)	21 (52.5)	27 (57.4)	24 (68.6)	74 (55.2)
	UNSURE	1 (8.3)	7 (17.5)	7 (14.9)	2 (5.7)	17 (12.7)
	YES	9 (75.0)	11 (27.5)	13 (27.7)	9 (25.7)	42 (31.3)
	Missing		1 (2.5)			1 (0.7)
Chi-square Test	P-value, Overall					0.045
Chi-square Test	P-value to Group 1		0.031	0.010	0.006	
Chi-square Test	P-value to Group 2			0.714	0.277	
Chi-square Test	P-value to Group 3				0.374	

Table 2.12: Summary Statistics, Does your curriculum describe measures to maintain situational a

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum describe NO measures to maintain		6 (50.0)	23 (57.5)	33 (70.2)	28 (80.0)	90 (67.2)
	UNSURE	1 (8.3)	4 (10.0)	8 (17.0)	3 (8.6)	16 (11.9)
	YES	4 (33.3)	13 (32.5)	6 (12.8)	4 (11.4)	27 (20.1)
	Missing	1 (8.3)				1 (0.7)
Chi-square Test	P-value, Overall					0.015
Chi-square Test	P-value to Group 1		0.327	0.061	0.088	
Chi-square Test	P-value to Group 2			0.075	0.079	
Chi-square Test	P-value to Group 3				0.508	

Table 2.13: Summary Statistics, Does your curriculum educate students on how to communicate effe

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on how to co	NO	3 (25.0)	21 (52.5)	27 (57.4)	25 (71.4)	76 (56.7)
	UNSURE		6 (15.0)	8 (17.0)	4 (11.4)	18 (13.4)
	YES	9 (75.0)	13 (32.5)	12 (25.5)	6 (17.1)	40 (29.9)
Chi-square Test	P-value, Overall					0.012
Chi-square Test	P-value to Group 1		0.027	0.005	<.001	
Chi-square Test	P-value to Group 2			0.773	0.222	
Chi-square Test	P-value to Group 3				0.429	

Table 2.14: Summary Statistics, Does your curriculum educate students on identifying authoritati

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on identifyi	NO	5 (41.7)	22 (55.0)	29 (61.7)	28 (80.0)	84 (62.7)
	UNSURE	1 (8.3)	8 (20.0)	10 (21.3)	3 (8.6)	22 (16.4)
	YES	6 (50.0)	9 (22.5)	7 (14.9)	3 (8.6)	25 (18.7)
	Missing		1 (2.5)	1 (2.1)	1 (2.9)	3 (2.2)
Chi-square Test	P-value, Overall					0.093
Chi-square Test	P-value to Group 1		0.288	0.068	0.017	
Chi-square Test	P-value to Group 2			0.831	0.128	
Chi-square Test	P-value to Group 3				0.295	

Table 2.15: Summary Statistics, Does your curriculum explain principles of crisis and emergency

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum explain principles of crisis	NO	7 (58.3)	25 (62.5)	37 (78.7)	30 (85.7)	99 (73.9)
	UNSURE		6 (15.0)	6 (12.8)	2 (5.7)	14 (10.4)
	YES	4 (33.3)	9 (22.5)	4 (8.5)	2 (5.7)	19 (14.2)
	Missing	1 (8.3)			1 (2.9)	2 (1.5)
Chi-square Test	P-value, Overall					0.031
Chi-square Test	P-value to Group 1		0.133	0.016	0.057	
Chi-square Test	P-value to Group 2			0.157	0.055	
Chi-square Test	P-value to Group 3				0.440	

Table 2.16: Summary Statistics, Does your curriculum identify strategies appropriate for sharing

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum identify strategies appropriate	NO	6 (50.0)	26 (65.0)	33 (70.2)	30 (85.7)	95 (70.9)
	UNSURE	2 (16.7)	8 (20.0)	5 (10.6)	2 (5.7)	17 (12.7)
	YES	4 (33.3)	6 (15.0)	9 (19.1)	2 (5.7)	21 (15.7)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.155
Chi-square Test	P-value to Group 1		0.367	0.416	0.038	
Chi-square Test	P-value to Group 2			0.456	0.086	
Chi-square Test	P-value to Group 3				0.155	

Table 2.17: Summary Statistics, Does your curriculum describe cultural issues and challenges in

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum describe NO cultural issues and		6 (50.0)	25 (62.5)	28 (59.6)	25 (71.4)	84 (62.7)
	UNSURE	1 (8.3)	4 (10.0)	6 (12.8)	3 (8.6)	14 (10.4)
	YES	5 (41.7)	11 (27.5)	13 (27.7)	6 (17.1)	35 (26.1)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.708
Chi-square Test	P-value to Group 1		0.647	0.630	0.353	
Chi-square Test	P-value to Group 2			0.916	0.514	
Chi-square Test	P-value to Group 3				0.383	

Table 2.18: Summary Statistics, Does your curriculum educate students on personal safety measure

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on personal	NO	2 (16.7)	14 (35.0)	27 (57.4)	25 (71.4)	68 (50.7)
	UNSURE		3 (7.5)	8 (17.0)	2 (5.7)	13 (9.7)
	YES	9 (75.0)	22 (55.0)	11 (23.4)	7 (20.0)	49 (36.6)
	Missing	1 (8.3)	1 (2.5)	1 (2.1)	1 (2.9)	4 (3.0)
Chi-square Test	P-value, Overall					0.001
Chi-square Test	P-value to Group 1		0.342	0.003	0.003	
Chi-square Test	P-value to Group 2			0.023	0.013	
Chi-square Test	P-value to Group 3				0.412	

Table 2.20: Summary Statistics, Does your curriculum describe risk reduction measures that can b

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum describe NO risk reduction measu		4 (33.3)	23 (57.5)	24 (51.1)	22 (62.9)	73 (54.5)
	UNSURE	1 (8.3)	5 (12.5)	9 (19.1)	5 (14.3)	20 (14.9)
	YES	6 (50.0)	12 (30.0)	14 (29.8)	8 (22.9)	40 (29.9)
	Missing	1 (8.3)				1 (0.7)
Chi-square Test	P-value, Overall					0.089
Chi-square Test	P-value to Group 1		0.134	0.095	0.079	
Chi-square Test	P-value to Group 2			0.684	0.782	
Chi-square Test	P-value to Group 3				0.567	

Table 2.21: Summary Statistics, Does your curriculum educate students about surge capacity asset

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students about surge	NO	8 (66.7)	36 (90.0)	38 (80.9)	32 (91.4)	114 (85.1)
	UNSURE	3 (25.0)	4 (10.0)	9 (19.1)	1 (2.9)	17 (12.7)
	YES	1 (8.3)			1 (2.9)	2 (1.5)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.089
Chi-square Test	P-value to Group 1		0.065	0.115	0.080	
Chi-square Test	P-value to Group 2			0.233	0.294	
Chi-square Test	P-value to Group 3				0.063	

Table 2.22: Summary Statistics, Does your curriculum describe the potential impact of a mass cas

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum describe NO the potential impact		6 (50.0)	34 (85.0)	26 (55.3)	33 (94.3)	99 (73.9)
	UNSURE	1 (8.3)	4 (10.0)	8 (17.0)	2 (5.7)	15 (11.2)
	YES	5 (41.7)	2 (5.0)	12 (25.5)		19 (14.2)
	Missing			1 (2.1)		1 (0.7)
Chi-square Test	P-value, Overall					<.001
Chi-square Test	P-value to Group 1		0.005	0.650	<.001	
Chi-square Test	P-value to Group 2			0.018	0.307	
Chi-square Test	P-value to Group 3				0.001	

Table 2.23: Summary Statistics, Does your curriculum educate students how to identify existing s

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students how to identify existing s	NO	8 (66.7)	34 (85.0)	38 (80.9)	33 (94.3)	113 (84.3)
	UNSURE	3 (25.0)	4 (10.0)	9 (19.1)	1 (2.9)	17 (12.7)
	YES	1 (8.3)	1 (2.5)			2 (1.5)
	Missing		1 (2.5)		1 (2.9)	2 (1.5)
Chi-square Test	P-value, Overall					0.135
Chi-square Test	P-value to Group 1		0.385	0.115	0.027	
Chi-square Test	P-value to Group 2			0.307	0.477	
Chi-square Test	P-value to Group 3				0.047	

Table 2.24: Summary Statistics, Does your curriculum educate students on the principles and prac

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the princ	NO	8 (66.7)	29 (72.5)	33 (70.2)	32 (91.4)	102 (76.1)
	UNSURE	2 (16.7)	3 (7.5)	10 (21.3)	1 (2.9)	16 (11.9)
	YES	2 (16.7)	7 (17.5)	4 (8.5)	2 (5.7)	15 (11.2)
	Missing		1 (2.5)			1 (0.7)
Chi-square Test	P-value, Overall					0.138
Chi-square Test	P-value to Group 1		0.764	0.690	0.102	
Chi-square Test	P-value to Group 2			0.150	0.202	
Chi-square Test	P-value to Group 3				0.040	

Table 2.25: Summary Statistics, Does your curriculum educate students on the common physical and

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the commo	NO	6 (50.0)	20 (50.0)	28 (59.6)	27 (77.1)	81 (60.4)
	UNSURE		5 (12.5)	12 (25.5)	4 (11.4)	21 (15.7)
	YES	6 (50.0)	15 (37.5)	6 (12.8)	4 (11.4)	31 (23.1)
	Missing			1 (2.1)		1 (0.7)
Chi-square Test	P-value, Overall					0.011
Chi-square Test	P-value to Group 1		0.395	0.019	0.014	
Chi-square Test	P-value to Group 2			0.036	0.027	
Chi-square Test	P-value to Group 3				0.291	

Table 2.26: Summary Statistics, Does your curriculum explain the role of triage as a basis for p

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum explain the role of triage as	NO	4 (33.3)	26 (65.0)	12 (25.5)	28 (80.0)	70 (52.2)
	UNSURE		6 (15.0)	6 (12.8)	3 (8.6)	15 (11.2)
	YES	8 (66.7)	6 (15.0)	29 (61.7)	3 (8.6)	46 (34.3)
	Missing		2 (5.0)		1 (2.9)	3 (2.2)
Chi-square Test	P-value, Overall					<.001
Chi-square Test	P-value to Group 1		0.004	0.410	<.001	
Chi-square Test	P-value to Group 2			<.001	0.555	
Chi-square Test	P-value to Group 3				<.001	

Table 2.27: Summary Statistics, Does your curriculum educate students on basic lifesaving and su

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on basic lif	NO		14 (35.0)	8 (17.0)	8 (22.9)	30 (22.4)
	UNSURE		5 (12.5)	4 (8.5)	3 (8.6)	12 (9.0)
	YES	12 (100.0)	21 (52.5)	35 (74.5)	23 (65.7)	91 (67.9)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.117
Chi-square Test	P-value to Group 1		0.011	0.146	0.137	
Chi-square Test	P-value to Group 2			0.095	0.406	
Chi-square Test	P-value to Group 3				0.591	

Table 2.28: Summary Statistics, Does your curriculum educate students on the public health princ

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the publi	NO	4 (33.3)	22 (55.0)	20 (42.6)	25 (71.4)	71 (53.0)
	UNSURE	2 (16.7)	5 (12.5)	10 (21.3)	3 (8.6)	20 (14.9)
	YES	6 (50.0)	13 (32.5)	17 (36.2)	6 (17.1)	42 (31.3)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.150
Chi-square Test	P-value to Group 1		0.415	0.681	0.079	
Chi-square Test	P-value to Group 2			0.418	0.266	
Chi-square Test	P-value to Group 3				0.029	

Table 2.29: Summary Statistics, Does your curriculum educate students on the public health conse

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the publi	NO	4 (33.3)	24 (60.0)	28 (59.6)	27 (77.1)	83 (61.9)
	UNSURE	2 (16.7)	10 (25.0)	7 (14.9)	3 (8.6)	22 (16.4)
	YES	6 (50.0)	6 (15.0)	12 (25.5)	4 (11.4)	28 (20.9)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.058
Chi-square Test	P-value to Group 1		0.041	0.211	0.021	
Chi-square Test	P-value to Group 2			0.318	0.169	
Chi-square Test	P-value to Group 3				0.174	

Table 2.30: Summary Statistics, Does your curriculum educate students on identifying functional

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on identifyi	NO	6 (50.0)	23 (57.5)	28 (59.6)	26 (74.3)	83 (61.9)
	UNSURE	2 (16.7)	7 (17.5)	11 (23.4)	2 (5.7)	22 (16.4)
	YES	4 (33.3)	9 (22.5)	8 (17.0)	6 (17.1)	27 (20.1)
	Missing		1 (2.5)		1 (2.9)	2 (1.5)
Chi-square Test	P-value, Overall					0.505
Chi-square Test	P-value to Group 1		0.842	0.449	0.324	
Chi-square Test	P-value to Group 2			0.596	0.356	
Chi-square Test	P-value to Group 3				0.113	

Table 2.31: Summary Statistics, Does your curriculum discuss strategies to address and engage fu

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum discuss strategies to address	NO	8 (66.7)	25 (62.5)	34 (72.3)	29 (82.9)	96 (71.6)
	UNSURE	1 (8.3)	10 (25.0)	11 (23.4)	2 (5.7)	24 (17.9)
	YES	3 (25.0)	5 (12.5)	1 (2.1)	2 (5.7)	11 (8.2)
	Missing			1 (2.1)	2 (5.7)	3 (2.2)
Chi-square Test	P-value, Overall					0.048
Chi-square Test	P-value to Group 1		0.337	0.033	0.240	
Chi-square Test	P-value to Group 2			0.208	0.035	
Chi-square Test	P-value to Group 3				0.129	

Table 2.32: Summary Statistics, Does your curriculum educate students on ethical principles to p

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on ethical p	NO	6 (50.0)	15 (37.5)	29 (61.7)	18 (51.4)	68 (50.7)
	UNSURE		4 (10.0)	9 (19.1)	3 (8.6)	16 (11.9)
	YES	6 (50.0)	21 (52.5)	9 (19.1)	14 (40.0)	50 (37.3)
Chi-square Test	P-value, Overall					0.034
Chi-square Test	P-value to Group 1		0.457	0.047	0.537	
Chi-square Test	P-value to Group 2			0.005	0.475	
Chi-square Test	P-value to Group 3				0.082	

Table 2.32: Summary Statistics, Does your curriculum educate students on the common public health

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the common	NO	6 (50.0)	18 (45.0)	23 (48.9)	27 (77.1)	74 (55.2)
	UNSURE		7 (17.5)	8 (17.0)	2 (5.7)	17 (12.7)
	YES	6 (50.0)	15 (37.5)	16 (34.0)	5 (14.3)	42 (31.3)
	Missing				1 (2.9)	1 (0.7)
Chi-square Test	P-value, Overall					0.057
Chi-square Test	P-value to Group 1		0.285	0.260	0.077	
Chi-square Test	P-value to Group 2			0.929	0.016	
Chi-square Test	P-value to Group 3				0.028	

Table 2.33: Summary Statistics, Does your curriculum educate students on the ethical issues like

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the ethic	NO	4 (33.3)	17 (42.5)	35 (74.5)	20 (57.1)	76 (56.7)
	UNSURE		5 (12.5)	6 (12.8)	6 (17.1)	17 (12.7)
	YES	8 (66.7)	18 (45.0)	6 (12.8)	9 (25.7)	41 (30.6)
Chi-square Test	P-value, Overall					0.003
Chi-square Test	P-value to Group 1		0.278	<.001	0.027	
Chi-square Test	P-value to Group 2			0.003	0.222	
Chi-square Test	P-value to Group 3				0.223	

Table 2.34: Summary Statistics, Does your curriculum educate students on the ethical issues and

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the ethic	NO	6 (50.0)	17 (42.5)	38 (80.9)	24 (68.6)	85 (63.4)
	UNSURE		7 (17.5)	5 (10.6)	4 (11.4)	16 (11.9)
	YES	5 (41.7)	16 (40.0)	4 (8.5)	7 (20.0)	32 (23.9)
	Missing	1 (8.3)				1 (0.7)
Chi-square Test	P-value, Overall					<.001
Chi-square Test	P-value to Group 1		0.135	0.004	0.093	
Chi-square Test	P-value to Group 2			<.001	0.073	
Chi-square Test	P-value to Group 3				0.303	

Table 2.35: Summary Statistics, Does your curriculum educate students on the ethical issues and1

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the ethic	NO	7 (58.3)	25 (62.5)	35 (74.5)	30 (85.7)	97 (72.4)
	UNSURE	1 (8.3)	7 (17.5)	6 (12.8)	2 (5.7)	16 (11.9)
	YES	4 (33.3)	8 (20.0)	5 (10.6)	2 (5.7)	19 (14.2)
	Missing			1 (2.1)	1 (2.9)	2 (1.5)
Chi-square Test	P-value, Overall					0.233
Chi-square Test	P-value to Group 1		0.538	0.262	0.085	
Chi-square Test	P-value to Group 2			0.409	0.057	
Chi-square Test	P-value to Group 3				0.582	

Table 2.36: Summary Statistics, Does your curriculum educate students on legal principles to pro

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on legal pri	NO	6 (50.0)	22 (55.0)	34 (72.3)	28 (80.0)	90 (67.2)
	UNSURE	1 (8.3)	3 (7.5)	8 (17.0)	1 (2.9)	13 (9.7)
	YES	5 (41.7)	13 (32.5)	4 (8.5)	6 (17.1)	28 (20.9)
	Missing		2 (5.0)	1 (2.1)		3 (2.2)
Chi-square Test	P-value, Overall					0.034
Chi-square Test	P-value to Group 1		0.831	0.040	0.133	
Chi-square Test	P-value to Group 2			0.024	0.112	
Chi-square Test	P-value to Group 3				0.122	

Table 2.37: Summary Statistics, Does your curriculum educate students on legal and regulatory is

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on legal and	NO	9 (75.0)	26 (65.0)	39 (83.0)	29 (82.9)	103 (76.9)
	UNSURE	2 (16.7)	5 (12.5)	6 (12.8)	1 (2.9)	14 (10.4)
	YES	1 (8.3)	8 (20.0)	2 (4.3)	5 (14.3)	16 (11.9)
	Missing		1 (2.5)			1 (0.7)
Chi-square Test	P-value, Overall					0.272
Chi-square Test	P-value to Group 1		0.733	0.781	0.225	
Chi-square Test	P-value to Group 2			0.080	0.240	
Chi-square Test	P-value to Group 3				0.097	

Table 2.38: Summary Statistics, Does your curriculum educate students on the legal issues and ch

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the legal	NO	10 (83.3)	27 (67.5)	38 (80.9)	29 (82.9)	104 (77.6)
	UNSURE		8 (20.0)	6 (12.8)	4 (11.4)	18 (13.4)
	YES	2 (16.7)	5 (12.5)	2 (4.3)	2 (5.7)	11 (8.2)
	Missing			1 (2.1)		1 (0.7)
Chi-square Test	P-value, Overall					0.462
Chi-square Test	P-value to Group 1		0.241	0.265	0.268	
Chi-square Test	P-value to Group 2			0.273	0.306	
Chi-square Test	P-value to Group 3				0.832	

Table 2.39: Summary Statistics, Does your curriculum educate students on the allocation of scarce

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the allocation of scarce	NO	6 (50.0)	31 (77.5)	38 (80.9)	34 (97.1)	109 (81.3)
	UNSURE	1 (8.3)	5 (12.5)	6 (12.8)	1 (2.9)	13 (9.7)
	YES	5 (41.7)	4 (10.0)	3 (6.4)		12 (9.0)
Chi-square Test	P-value, Overall					<.001
Chi-square Test	P-value to Group 1		0.039	0.006	<.001	
Chi-square Test	P-value to Group 2			0.826	0.039	
Chi-square Test	P-value to Group 3				0.076	

Table 2.40: Summary Statistics, Does your curriculum educate students on legal statutes related

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on legal sta	NO	9 (75.0)	30 (75.0)	39 (83.0)	30 (85.7)	108 (80.6)
	UNSURE		7 (17.5)	5 (10.6)	3 (8.6)	15 (11.2)
	YES	3 (25.0)	3 (7.5)	3 (6.4)	2 (5.7)	11 (8.2)
Chi-square Test	P-value, Overall					0.242
Chi-square Test	P-value to Group 1		0.103	0.100	0.118	
Chi-square Test	P-value to Group 2			0.622	0.479	
Chi-square Test	P-value to Group 3				0.942	

Table 2.41: Summary Statistics, Does your curriculum educate students on short and long-term con

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on short and	NO	6 (50.0)	27 (67.5)	38 (80.9)	28 (80.0)	99 (73.9)
	UNSURE	2 (16.7)	7 (17.5)	8 (17.0)	2 (5.7)	19 (14.2)
	YES	4 (33.3)	6 (15.0)	1 (2.1)	5 (14.3)	16 (11.9)
Chi-square Test	P-value, Overall					0.045
Chi-square Test	P-value to Group 1		0.357	0.002	0.131	
Chi-square Test	P-value to Group 2			0.083	0.277	
Chi-square Test	P-value to Group 3				0.046	

Table 2.42: Summary Statistics, Does your curriculum educate students on clinical considerations

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on clinical	NO	8 (66.7)	28 (70.0)	36 (76.6)	28 (80.0)	100 (74.6)
	UNSURE		7 (17.5)	8 (17.0)	2 (5.7)	17 (12.7)
	YES	4 (33.3)	3 (7.5)	3 (6.4)	5 (14.3)	15 (11.2)
	Missing		2 (5.0)			2 (1.5)
Chi-square Test	P-value, Overall					0.059
Chi-square Test	P-value to Group 1		0.063	0.018	0.274	
Chi-square Test	P-value to Group 2			0.472	0.174	
Chi-square Test	P-value to Group 3				0.181	

Table 2.43: Summary Statistics, Does your curriculum educate students on the public health consi

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the publi	NO	8 (66.7)	27 (67.5)	37 (78.7)	29 (82.9)	101 (75.4)
	UNSURE	2 (16.7)	8 (20.0)	8 (17.0)	3 (8.6)	21 (15.7)
	YES	2 (16.7)	5 (12.5)	2 (4.3)	3 (8.6)	12 (9.0)
Chi-square Test	P-value, Overall					0.548
Chi-square Test	P-value to Group 1		0.917	0.308	0.497	
Chi-square Test	P-value to Group 2			0.317	0.283	
Chi-square Test	P-value to Group 3				0.422	

Table 2.44: Summary Statistics, Does your curriculum educate students on strategies for increasi

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on strategie	NO	8 (66.7)	27 (67.5)	33 (70.2)	28 (80.0)	96 (71.6)
	UNSURE	1 (8.3)	7 (17.5)	9 (19.1)	4 (11.4)	21 (15.7)
	YES	3 (25.0)	5 (12.5)	5 (10.6)	3 (8.6)	16 (11.9)
	Missing		1 (2.5)			1 (0.7)
Chi-square Test	P-value, Overall					0.717
Chi-square Test	P-value to Group 1		0.628	0.345	0.337	
Chi-square Test	P-value to Group 2			0.730	0.570	
Chi-square Test	P-value to Group 3				0.577	

Table 2.45: Summary Statistics, Does your curriculum educate students on the importance of monit

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Does your curriculum educate students on the impor	NO	4 (33.3)	20 (50.0)	32 (68.1)	29 (82.9)	85 (63.4)
	UNSURE		3 (7.5)	11 (23.4)	3 (8.6)	17 (12.7)
	YES	8 (66.7)	17 (42.5)	4 (8.5)	3 (8.6)	32 (23.9)
Chi-square Test	P-value, Overall					<.001
Chi-square Test	P-value to Group 1		0.276	<.001	<.001	
Chi-square Test	P-value to Group 2			<.001	0.004	
Chi-square Test	P-value to Group 3				0.205	

Table 2.46: Summary Statistics, Attitudes on Disaster Education for Healthcare Students-Disaster

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Attitudes on Disaster Education for Healthcare Stu	AGREE	1 (8.3)	4 (10.0)	3 (6.4)	2 (5.7)	10 (7.5)
	DISAGREE	8 (66.7)	15 (37.5)	21 (44.7)	12 (34.3)	56 (41.8)
	NEUTRAL	2 (16.7)	4 (10.0)	5 (10.6)	1 (2.9)	12 (9.0)
	STRONGLY AGREE			1 (2.1)		1 (0.7)
	STRONGLY DISAGREE	1 (8.3)	14 (35.0)	16 (34.0)	20 (57.1)	51 (38.1)
	UNSURE		3 (7.5)	1 (2.1)		4 (3.0)
Chi-square Test	P-value, Overall					0.259
Chi-square Test	P-value to Group 1		0.255	0.551	0.021	
Chi-square Test	P-value to Group 2			0.724	0.161	
Chi-square Test	P-value to Group 3				0.293	

Table 2.47: Summary Statistics, Attitudes on Disaster Education for Healthcare Students-Current

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Attitudes on Disaster Education for Healthcare Stu	AGREE	3 (25.0)	16 (40.0)	22 (46.8)	18 (51.4)	59 (44.0)
	DISAGREE	2 (16.7)	3 (7.5)	1 (2.1)		6 (4.5)
	NEUTRAL	1 (8.3)	9 (22.5)	5 (10.6)	4 (11.4)	19 (14.2)
	STRONGLY AGREE	5 (41.7)	10 (25.0)	12 (25.5)	12 (34.3)	39 (29.1)
	STRONGLY DISAGREE	1 (8.3)	2 (5.0)	5 (10.6)		8 (6.0)
	UNSURE			2 (4.3)	1 (2.9)	3 (2.2)
Chi-square Test	P-value, Overall					0.218
Chi-square Test	P-value to Group 1		0.492	0.259	0.058	
Chi-square Test	P-value to Group 2			0.303	0.160	
Chi-square Test	P-value to Group 3				0.392	

Table 2.48: Summary Statistics, Attitudes on Disaster Education for Healthcare Students-Practiti

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Attitudes on Disaster Education for Healthcare Stu	AGREE	3 (25.0)	19 (47.5)	13 (27.7)	12 (34.3)	47 (35.1)
	DISAGREE		1 (2.5)			1 (0.7)
	DOES NOT APPLY		1 (2.5)		1 (2.9)	2 (1.5)
	NEUTRAL		1 (2.5)	1 (2.1)	1 (2.9)	3 (2.2)
	STRONGLY AGREE	9 (75.0)	17 (42.5)	29 (61.7)	21 (60.0)	76 (56.7)
	STRONGLY DISAGREE		1 (2.5)	2 (4.3)		3 (2.2)
	UNSURE			2 (4.3)		2 (1.5)
Chi-square Test	P-value, Overall					0.651
Chi-square Test	P-value to Group 1		0.513	0.815	0.743	
Chi-square Test	P-value to Group 2			0.232	0.596	
Chi-square Test	P-value to Group 3				0.458	

Table 2.49: Summary Statistics, Attitudes on Disaster Education for Healthcare Students-Your sch

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Attitudes on Disaster Education for Healthcare Stu	AGREE	5 (41.7)	16 (40.0)	24 (51.1)	18 (51.4)	63 (47.0)
	DISAGREE	2 (16.7)	4 (10.0)	1 (2.1)		7 (5.2)
	NEUTRAL	5 (41.7)	8 (20.0)	5 (10.6)	5 (14.3)	23 (17.2)
	STRONGLY AGREE		5 (12.5)	10 (21.3)	10 (28.6)	25 (18.7)
	STRONGLY DISAGREE			2 (4.3)		2 (1.5)
	UNSURE		7 (17.5)	5 (10.6)	2 (5.7)	14 (10.4)
Chi-square Test	P-value, Overall					0.032
Chi-square Test	P-value to Group 1		0.223	0.016	0.010	
Chi-square Test	P-value to Group 2			0.181	0.062	
Chi-square Test	P-value to Group 3				0.629	

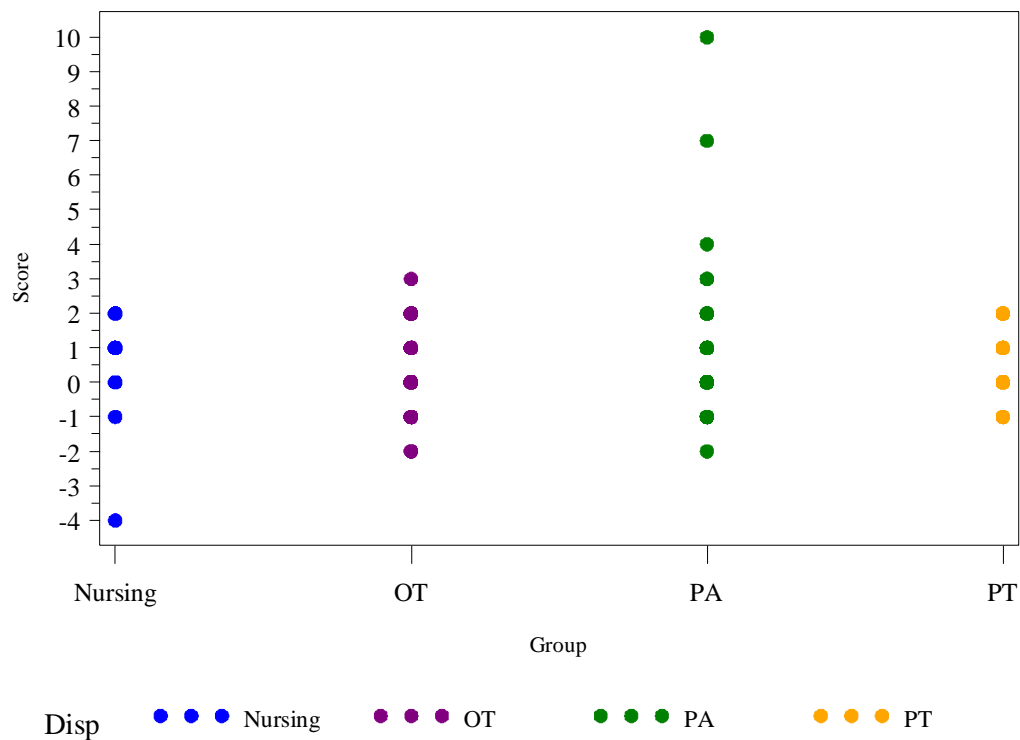
Table 2.50: Summary Statistics, Attitudes on Disaster Education for Healthcare Students-When you

		Nursing (N= 12)	OT (N= 40)	PA (N= 47)	PT (N= 35)	Total (N=134)
Attitudes on Disaster Education for Healthcare Stu	AGREE	3 (25.0)	4 (10.0)	5 (10.6)	5 (14.3)	17 (12.7)
	DISAGREE	4 (33.3)	16 (40.0)	11 (23.4)	18 (51.4)	49 (36.6)
	NEUTRAL	5 (41.7)	13 (32.5)	22 (46.8)	8 (22.9)	48 (35.8)
	STRONGLY AGREE			2 (4.3)		2 (1.5)
	STRONGLY DISAGREE		4 (10.0)	5 (10.6)	4 (11.4)	13 (9.7)
	UNSURE		3 (7.5)	2 (4.3)		5 (3.7)
Chi-square Test	P-value, Overall					0.253
Chi-square Test	P-value to Group 1		0.410	0.524	0.291	
Chi-square Test	P-value to Group 2			0.400	0.392	
Chi-square Test	P-value to Group 3				0.055	

Appendix C

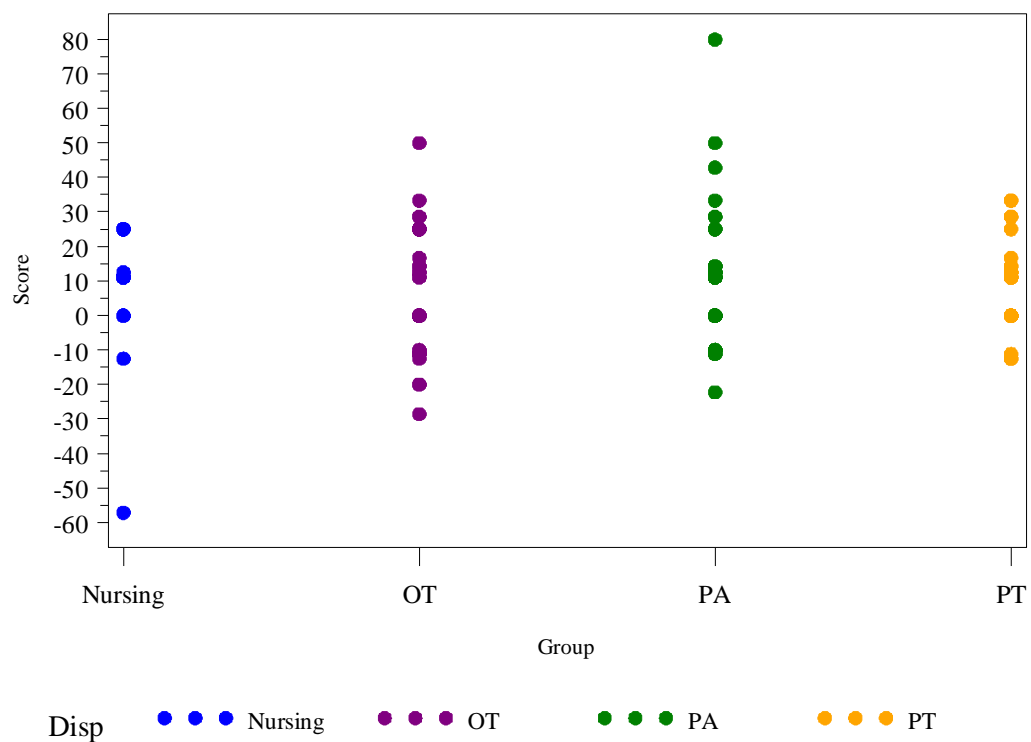
Graphic Display of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=CFB_COMM



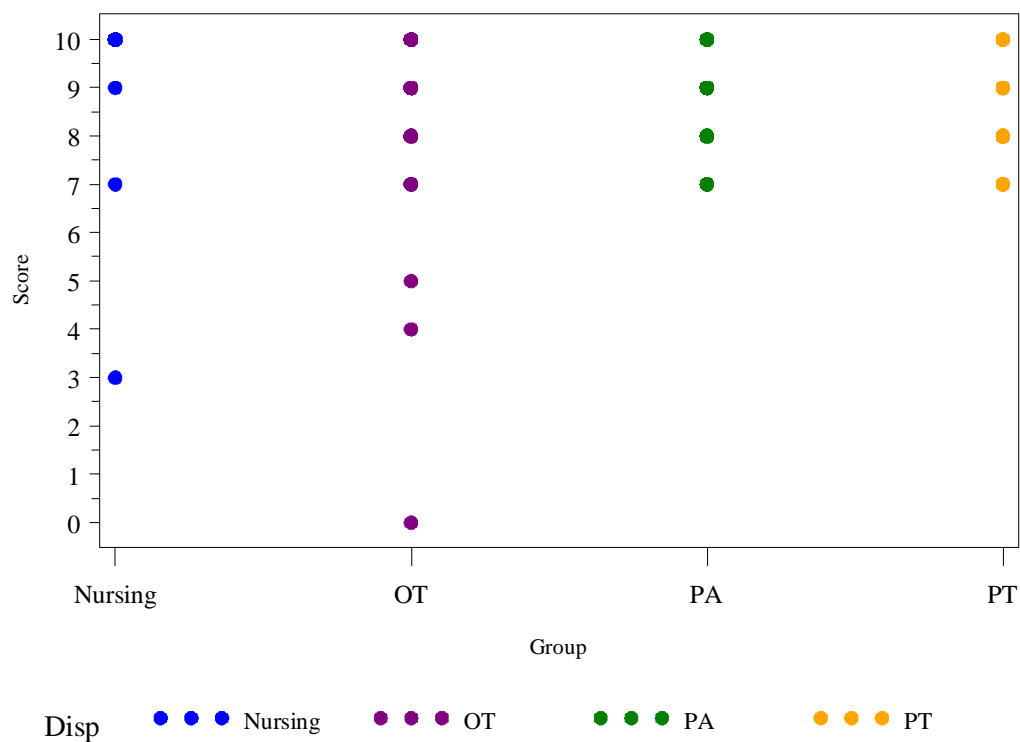
Graphic Display of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=PCFB_COMM



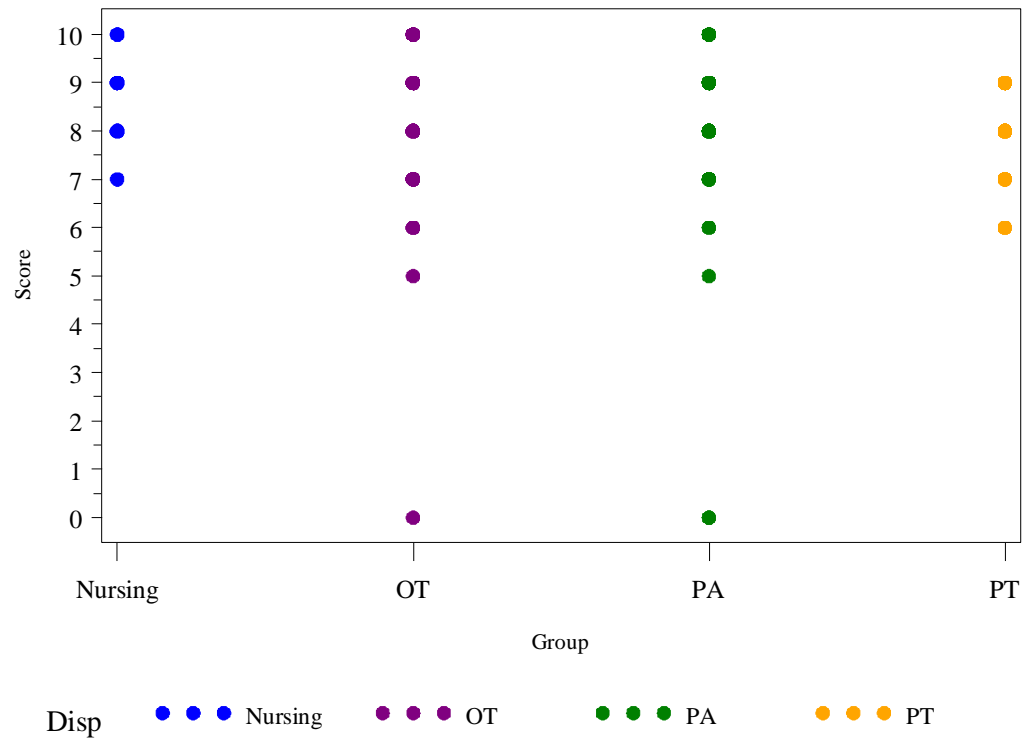
Graphic Display of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=POST_TEST_DISASTER_COMMUNICATION



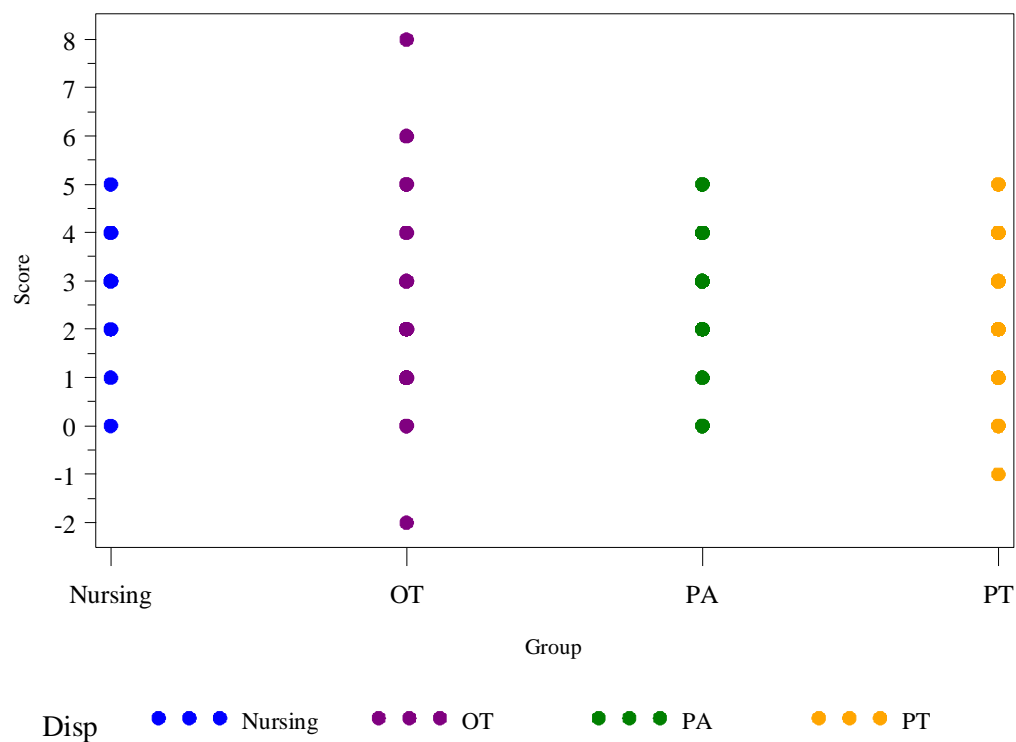
Graphic Display of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=PRE_TEST_DISASTER_COMMUNICATIONS



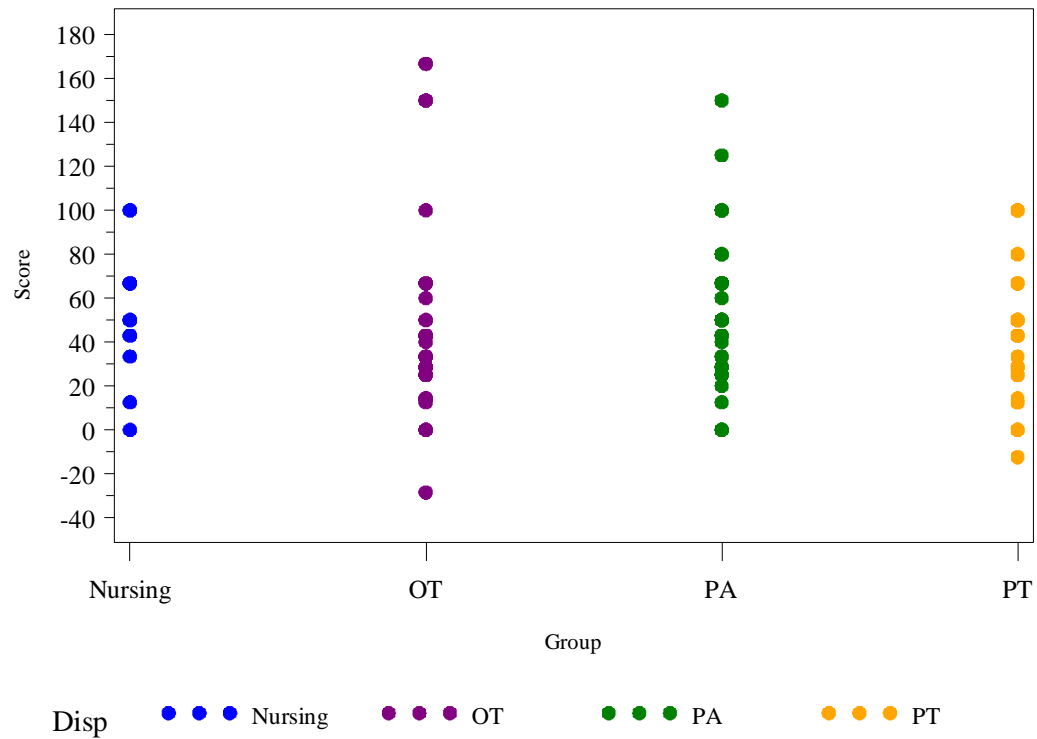
Graphic Display of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=CFB_PREP



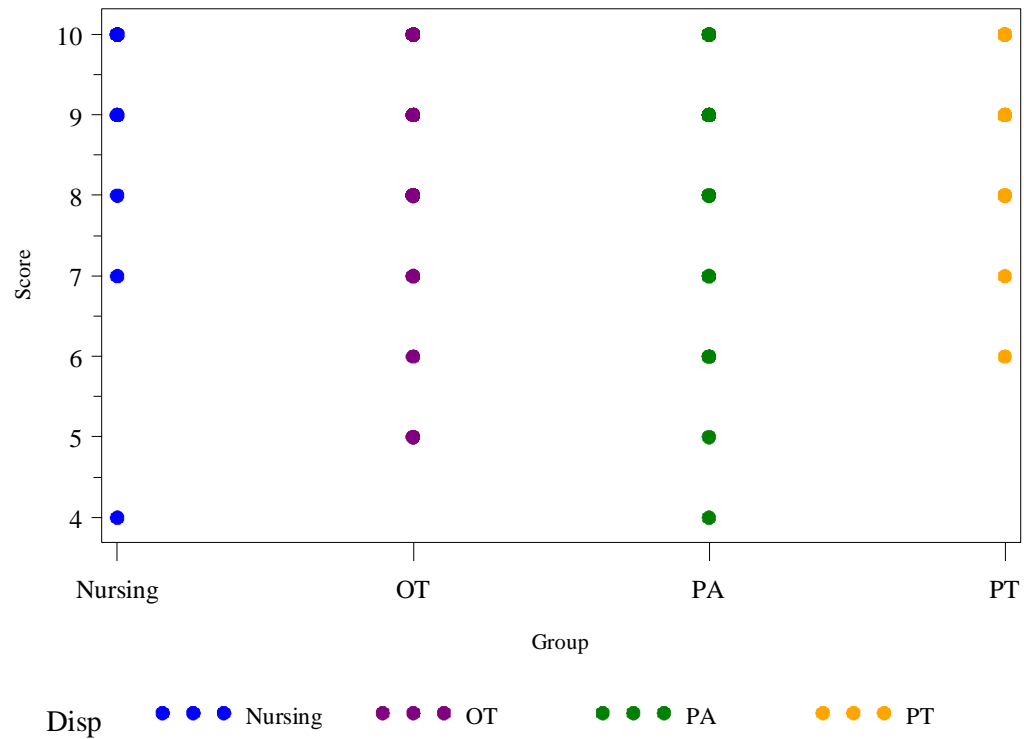
Graphic Display of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=PCFB_PREP



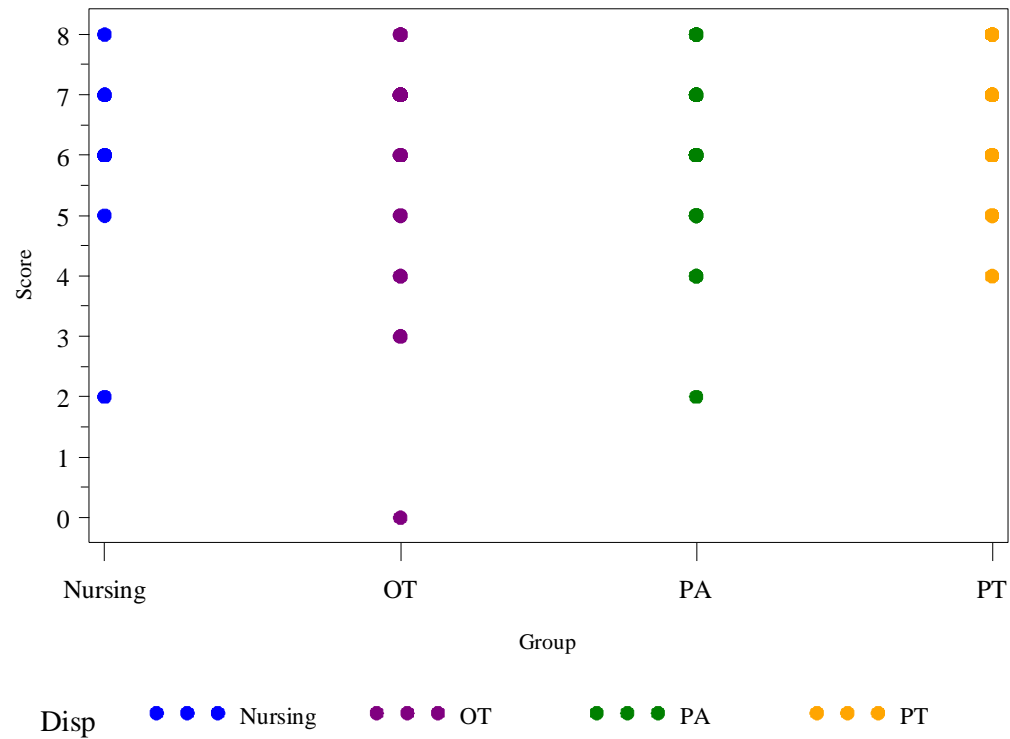
Graphic Display of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=POST_TEST_PERSONAL_DISASTER_PREP



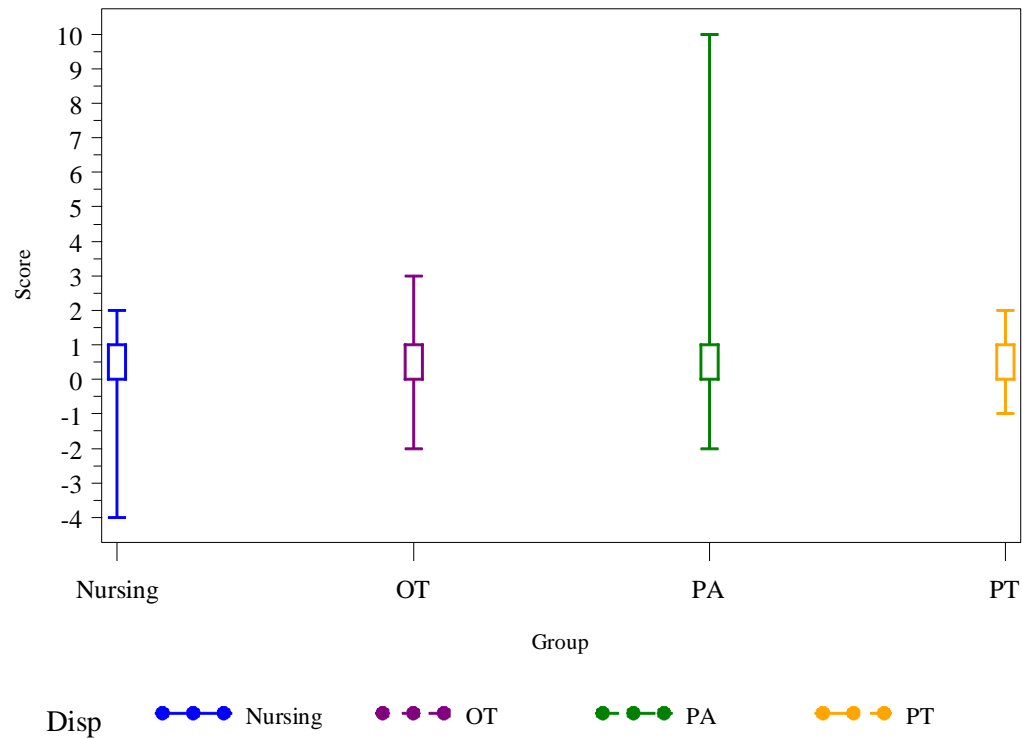
Graphic Display of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=PRE_TEST_PERSONAL_DISASTER_PREPA



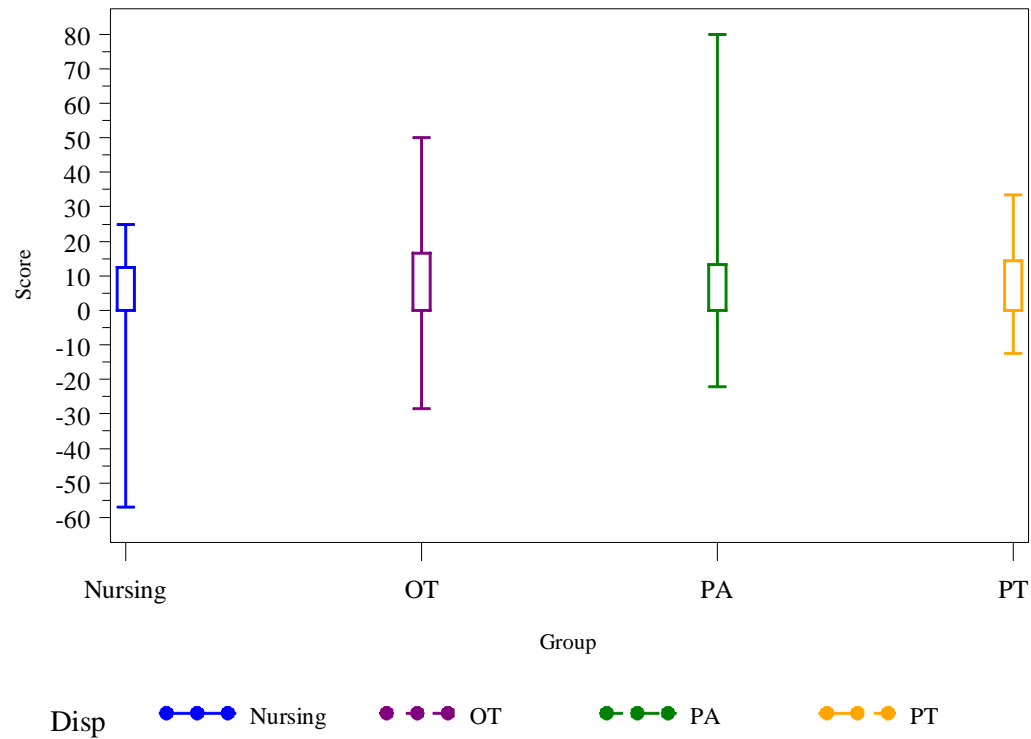
Boxplot of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=CFB_COMM



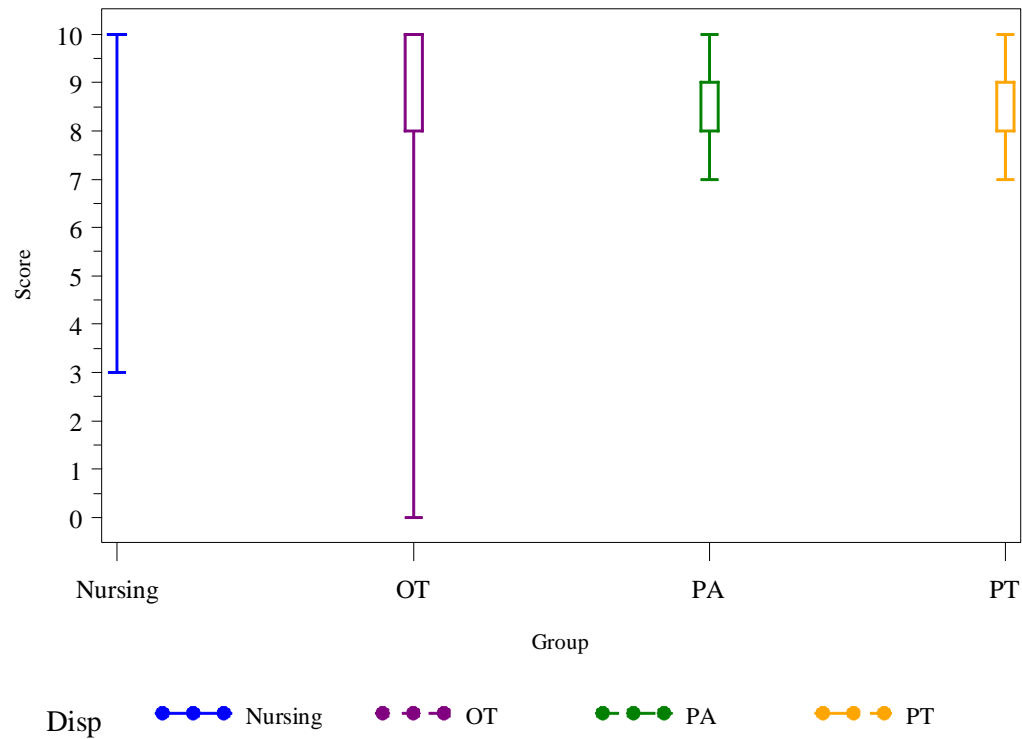
Boxplot of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=PCFB_COMM



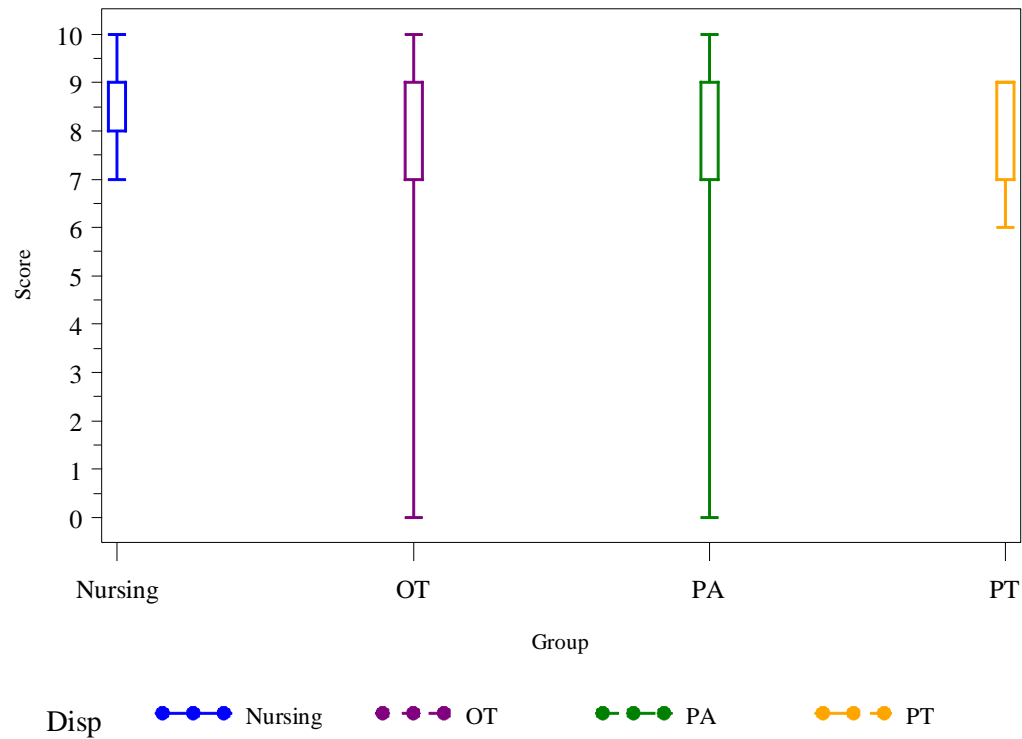
Boxplot of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=POST_TEST_DISASTER_COMMUNICATION



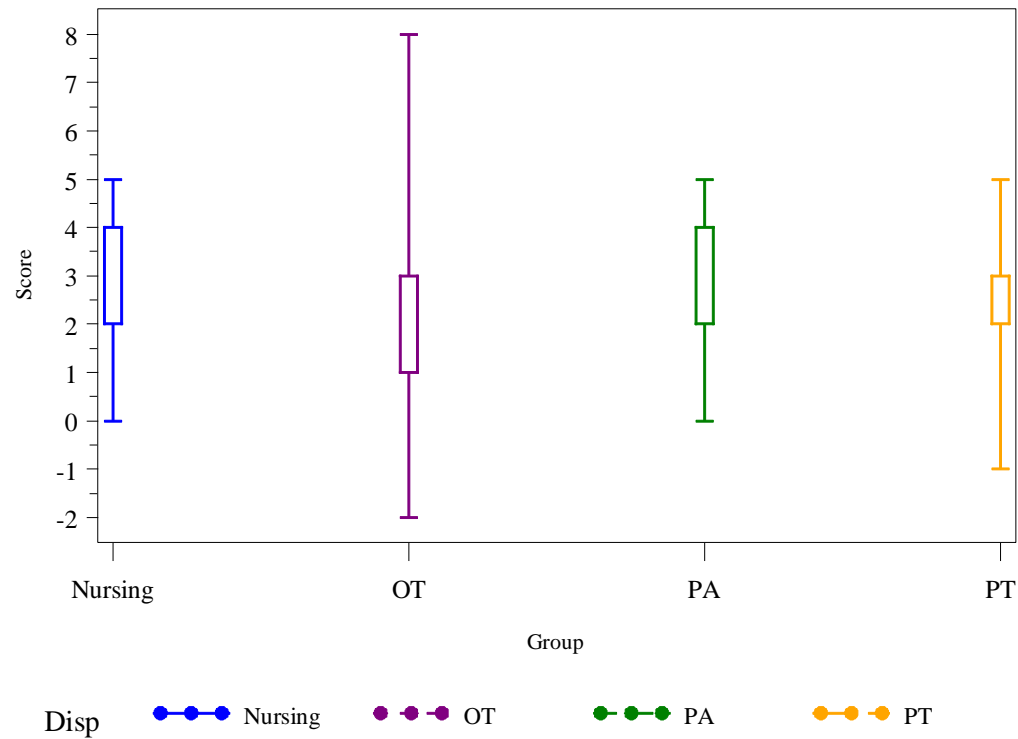
Boxplot of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=PRE_TEST_DISASTER_COMMUNICATIONS



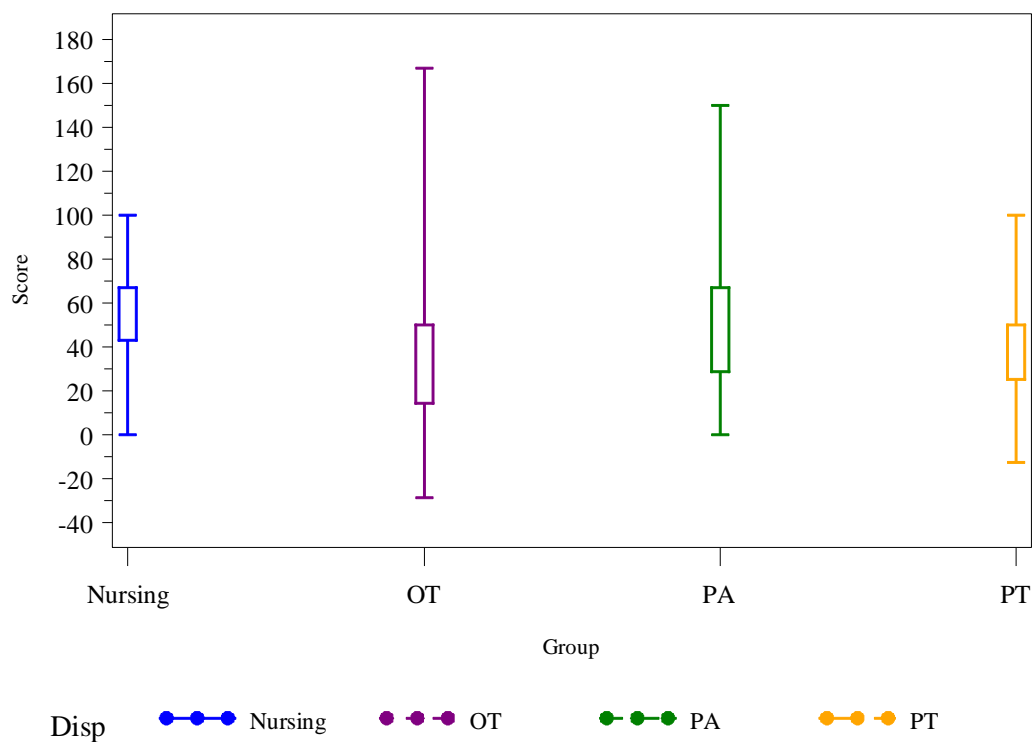
Boxplot of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=CFB_PREP



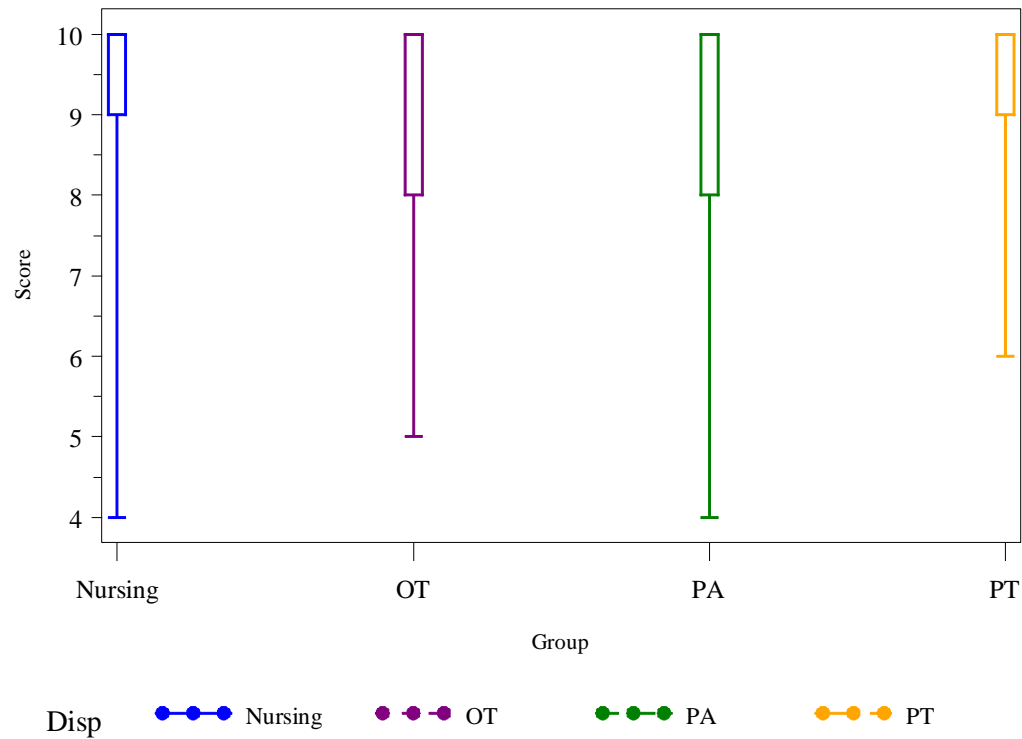
Boxplot of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=PCFB_PREP



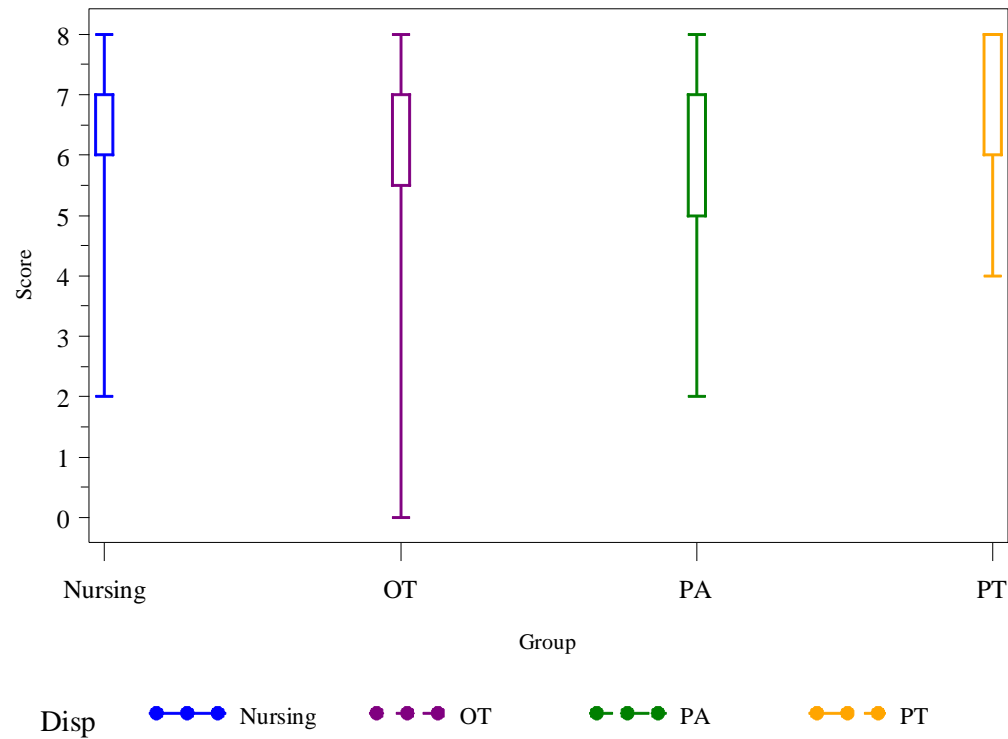
Boxplot of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=POST_TEST_PERSONAL_DISASTER_PREP



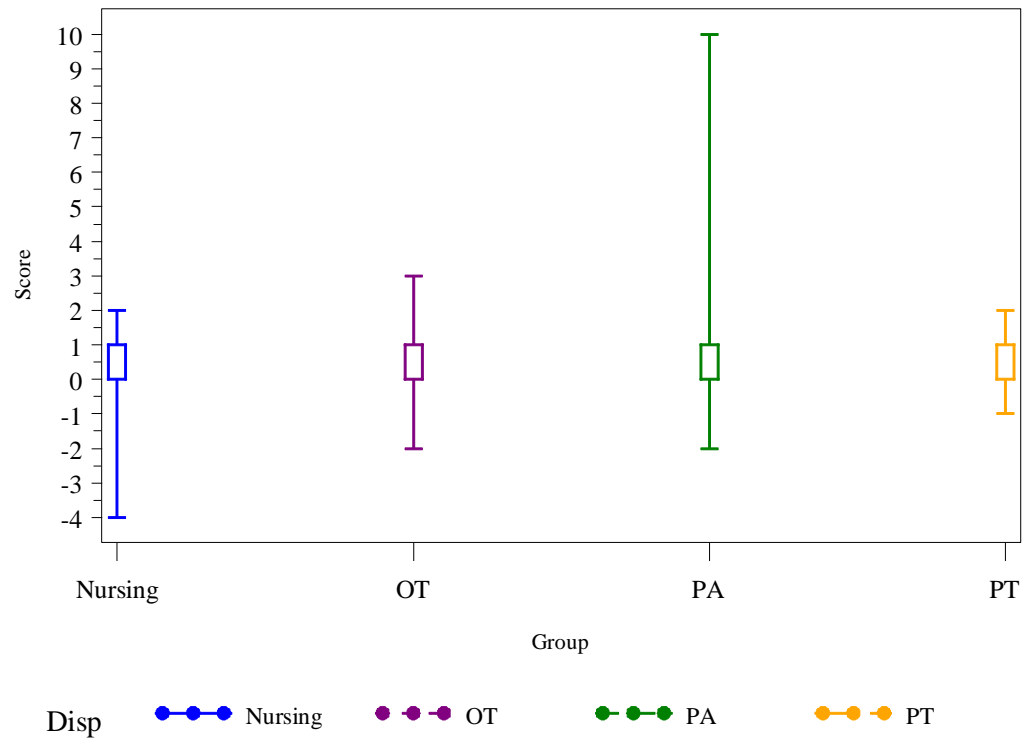
Boxplot of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=PRE_TEST_PERSONAL_DISASTER_PREPA



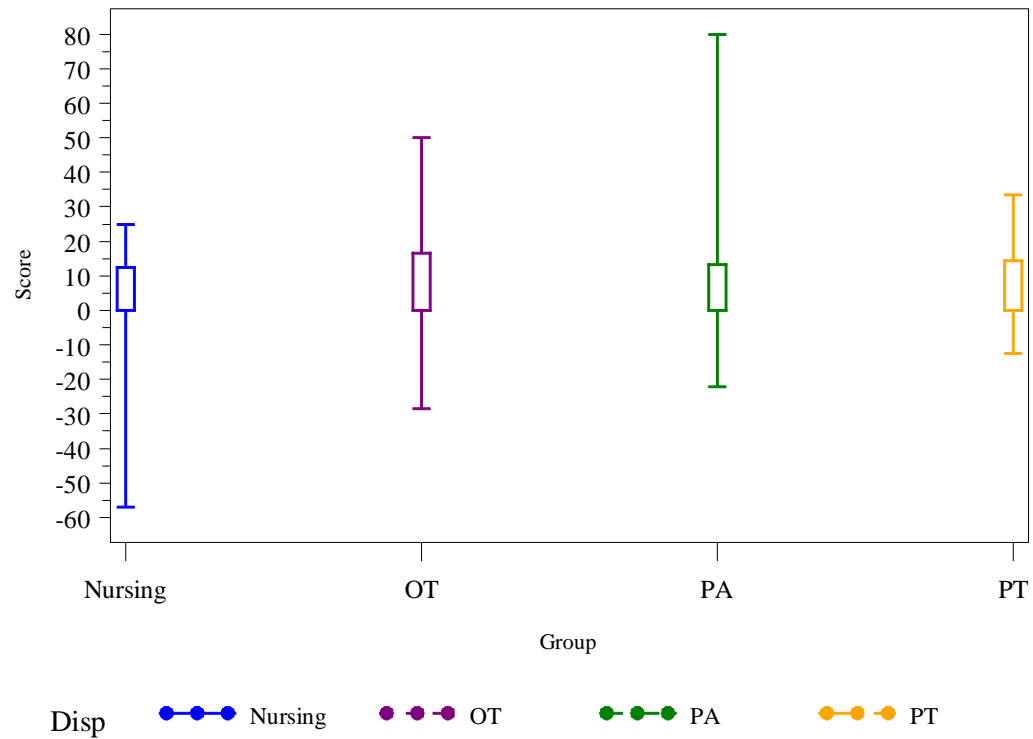
Boxplot of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=CFB_COMM



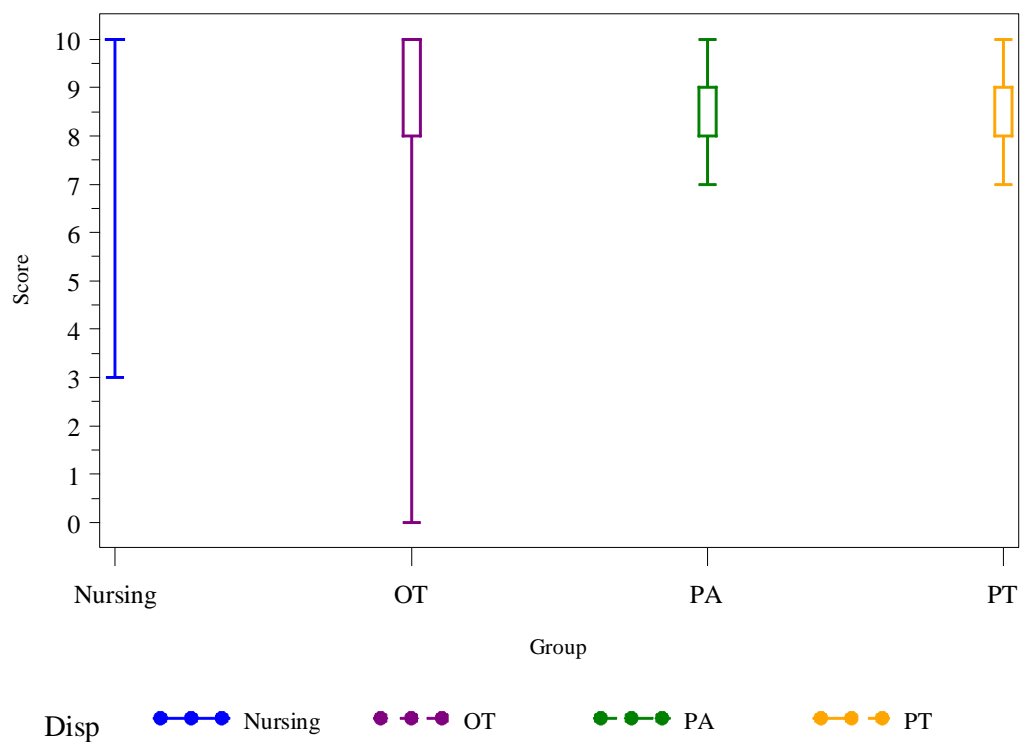
Boxplot of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=PCFB_COMM



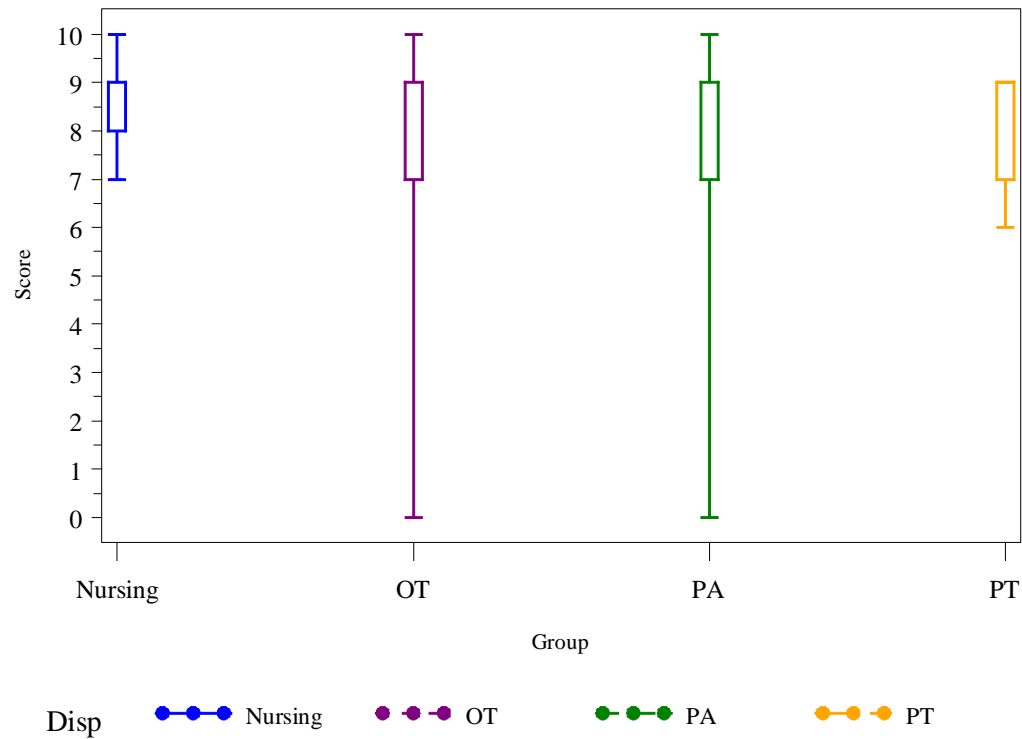
Boxplot of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=POST_TEST_DISASTER_COMMUNICATION



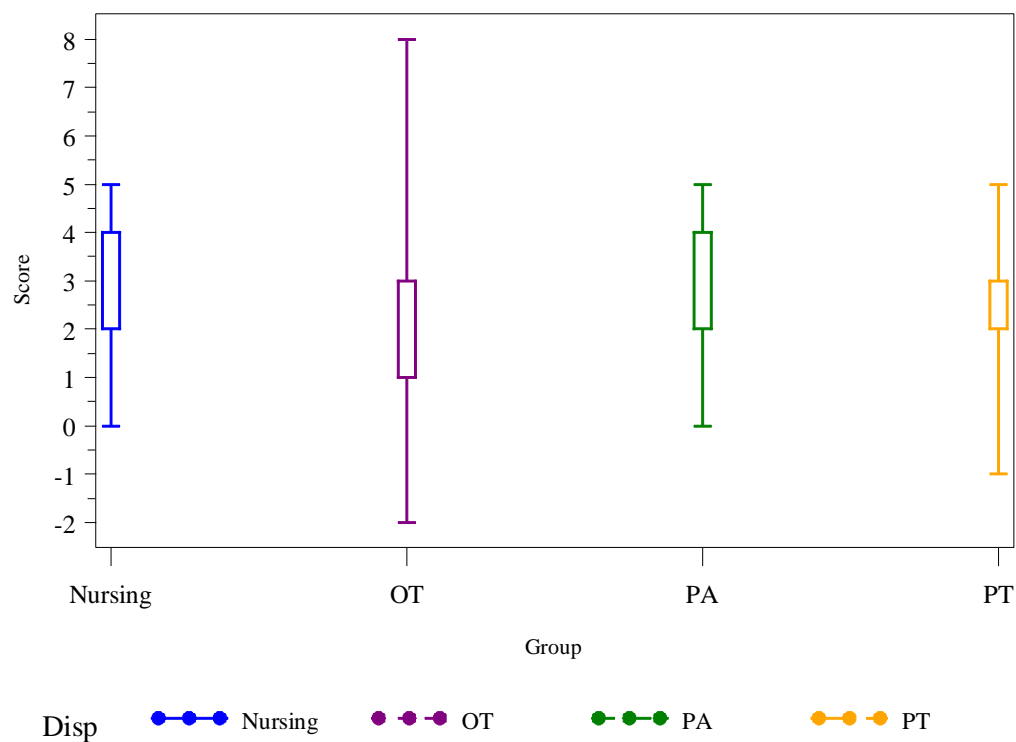
Boxplot of Study Score Data

ITT=1 SCOREG=COMM NAME OF FORMER VARIABLE=PRE_TEST_DISASTER_COMMUNICATIONS



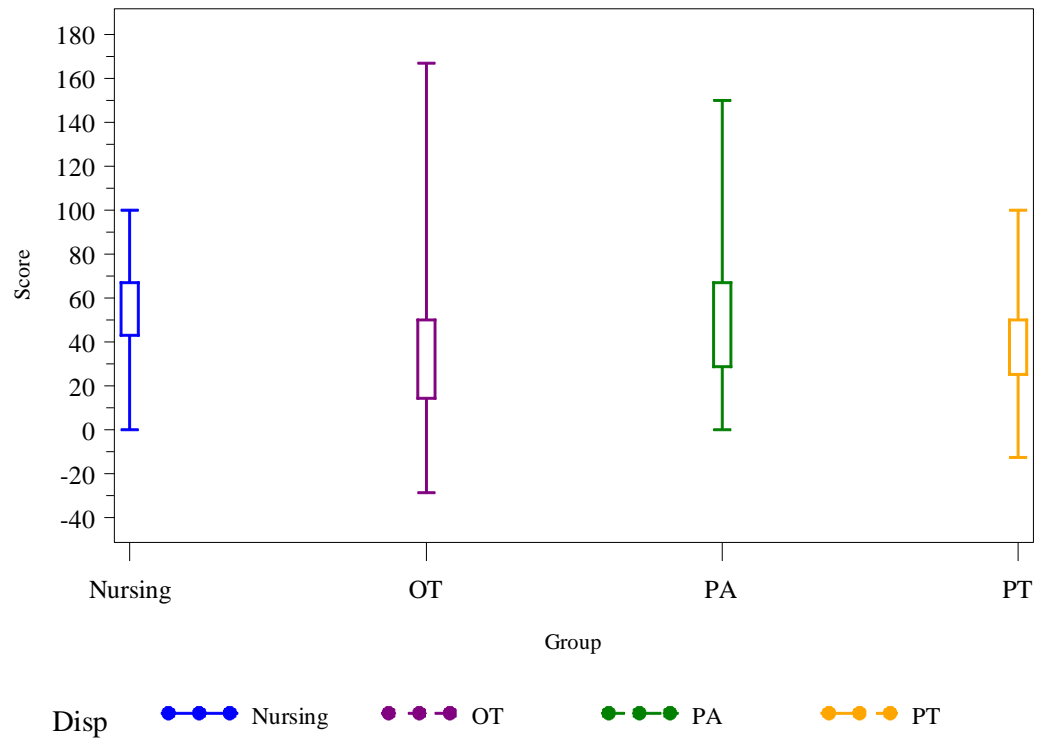
Boxplot of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=CFB_PREP



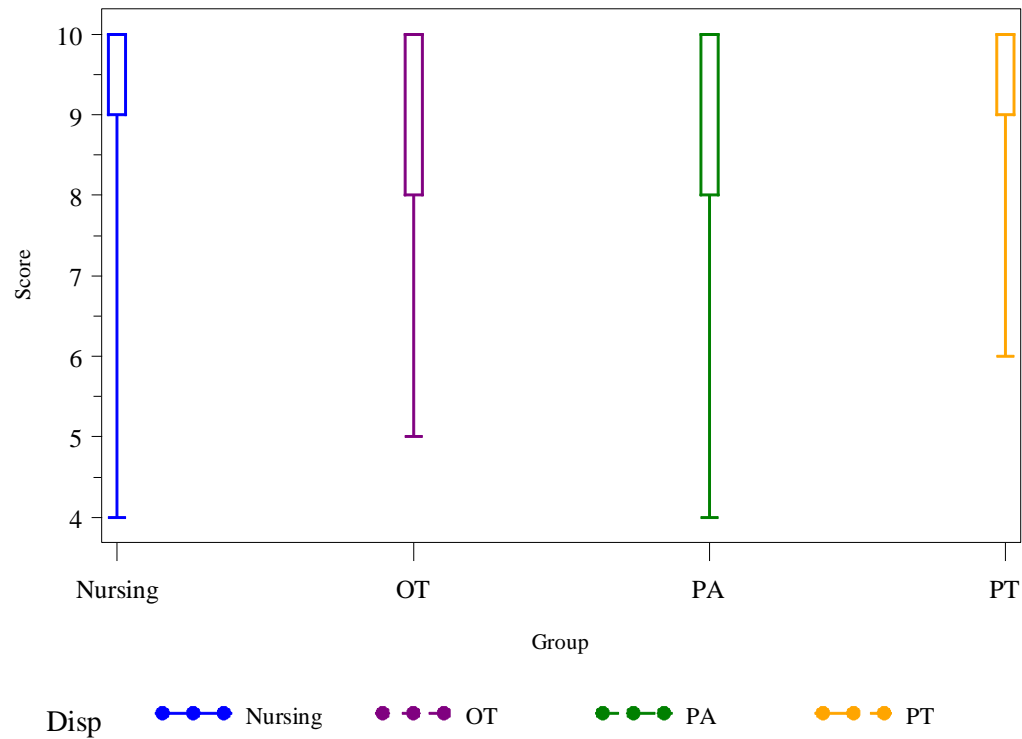
Boxplot of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=PCFB_PREP



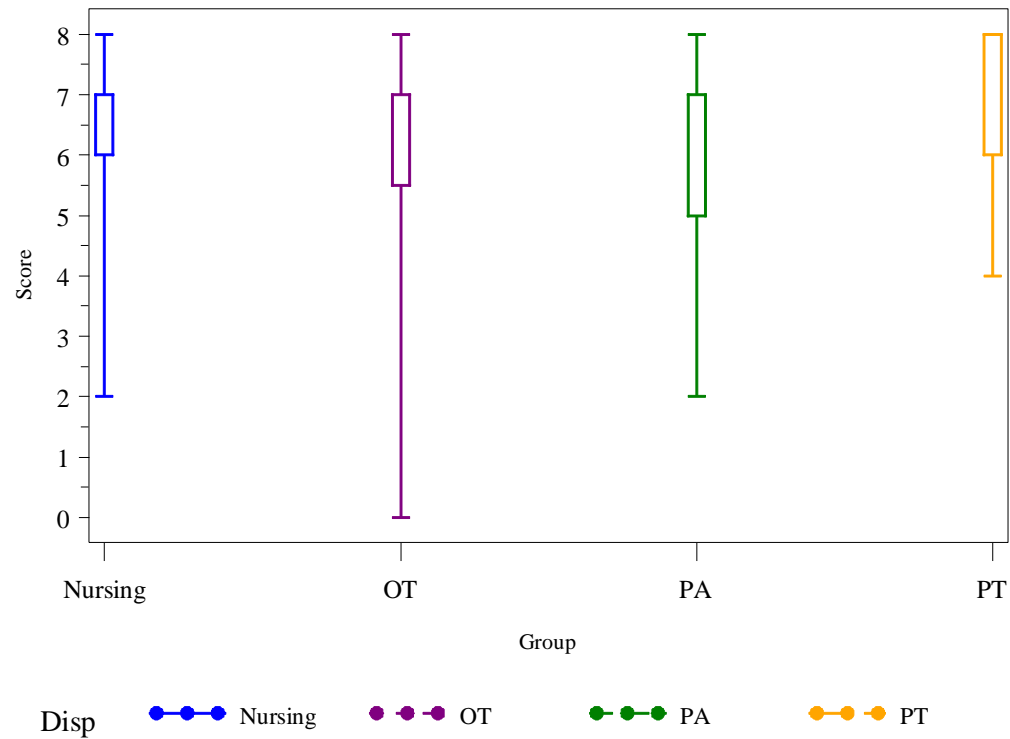
Boxplot of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=POST_TEST_PERSONAL_DISASTER_PREP



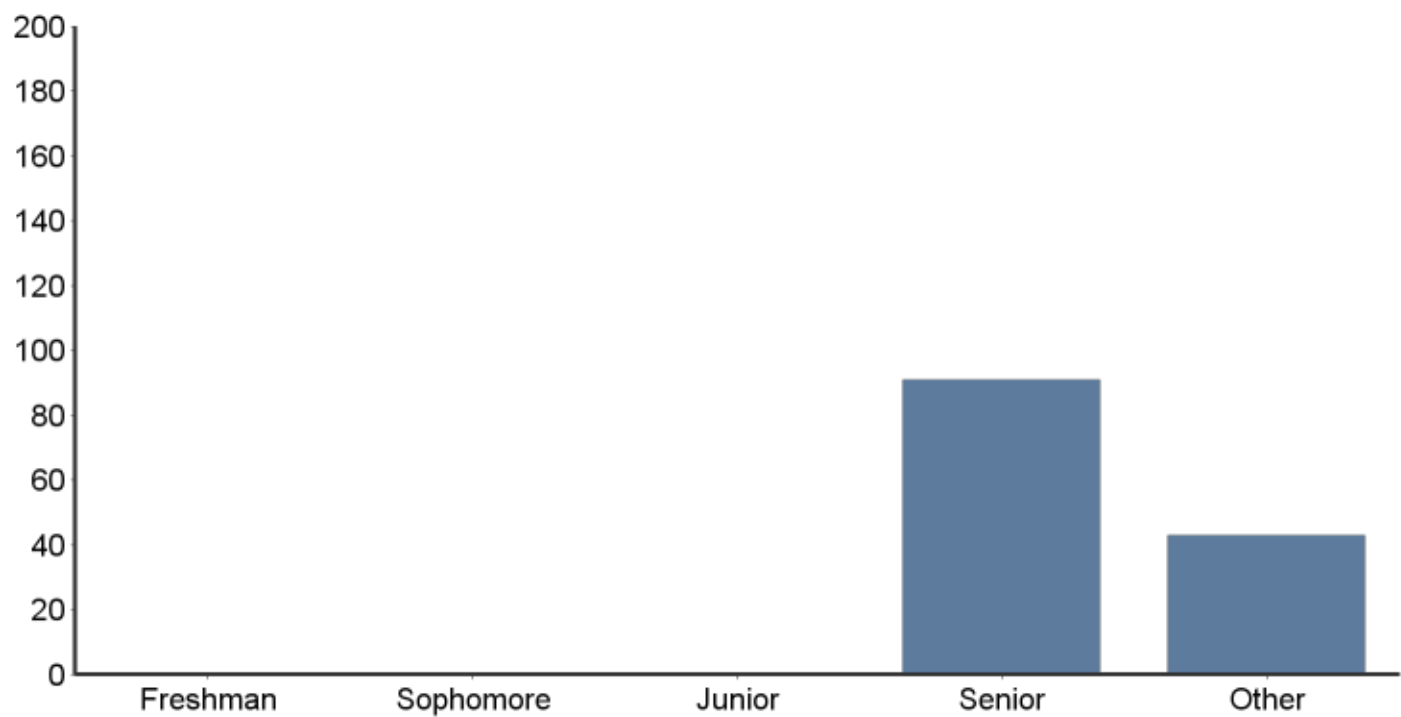
Boxplot of Study Score Data

ITT=1 SCOREG=PREP NAME OF FORMER VARIABLE=PRE_TEST_PERSONAL_DISASTER_PREPA



Appendix D

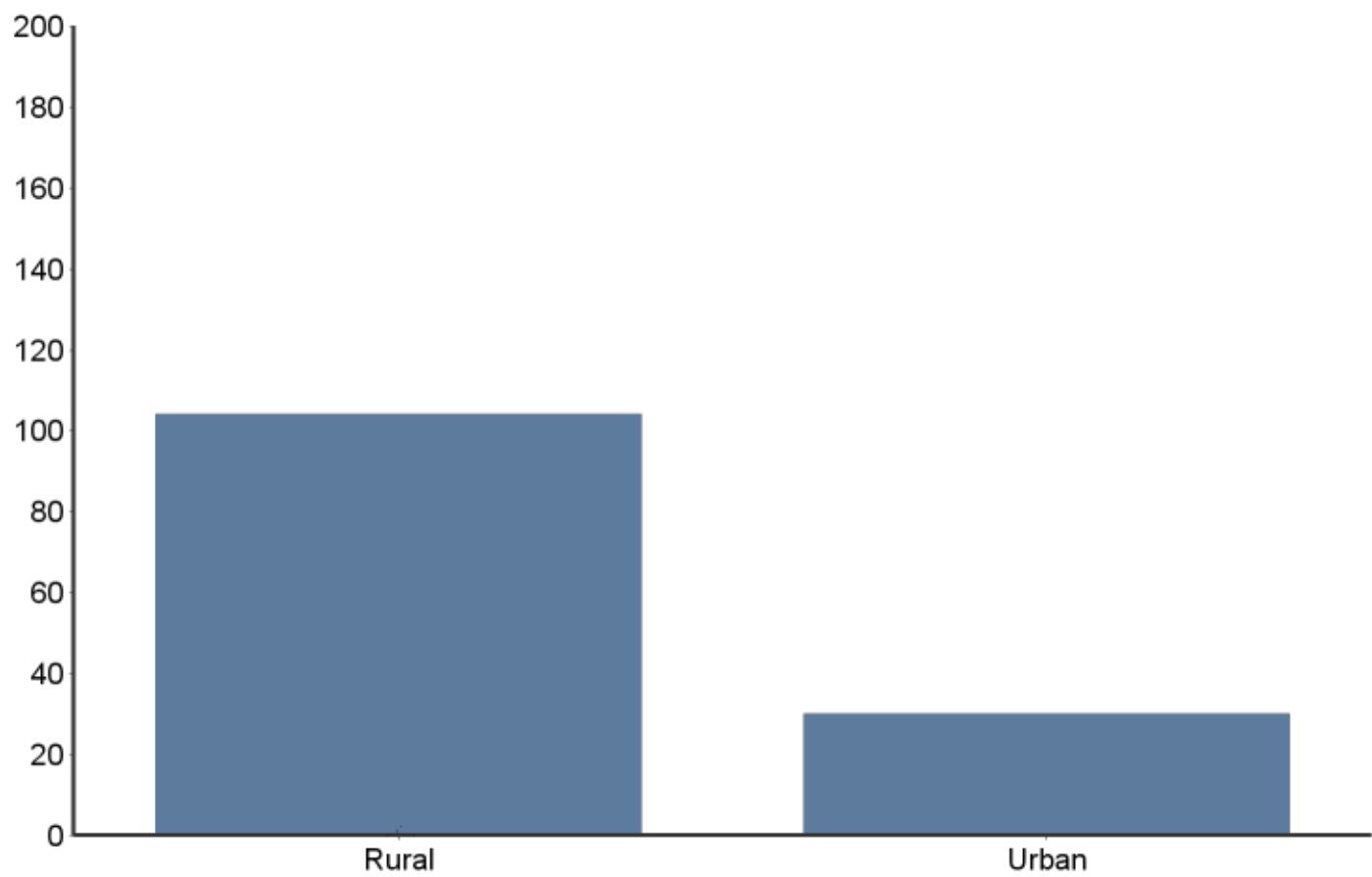
Appendix D – Survey Summary (year of s)tudy



#	Answer	Bar	Response	%
1	Freshman		0	0.00%
2	Sophomore		0	0.00%
3	Junior		0	0.00%
4	Senior	<div></div>	91	67.91%
5	Other	<div></div>	43	32.09%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
4	5	4.32	0.22	0.47	134	134

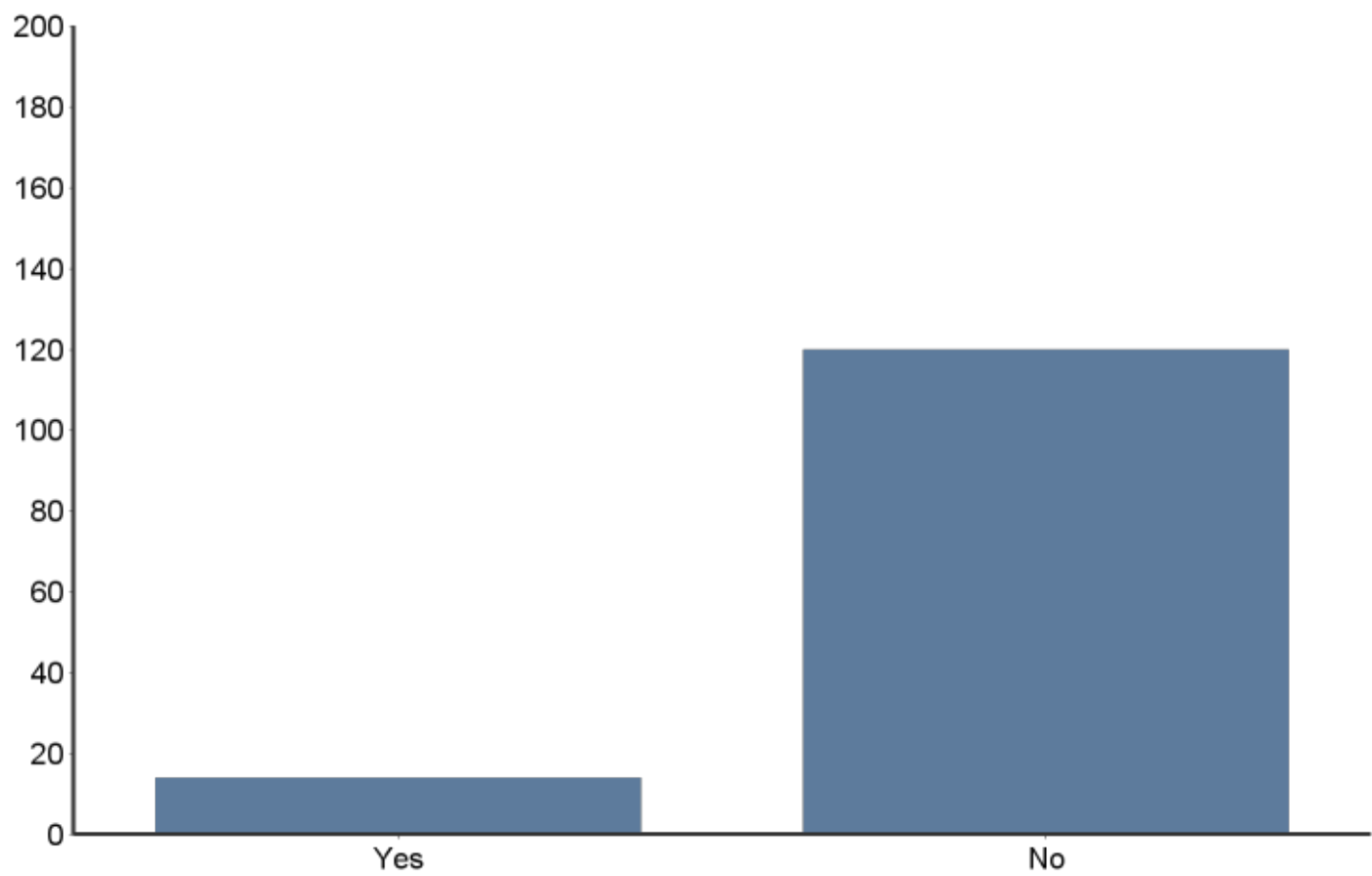
Do you consider your home town location to be:



#	Answer	Bar	Response	%
1	Rural	<div></div>	104	77.61%
2	Urban	<div></div>	30	22.39%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	2	1.22	0.18	0.42	134	134

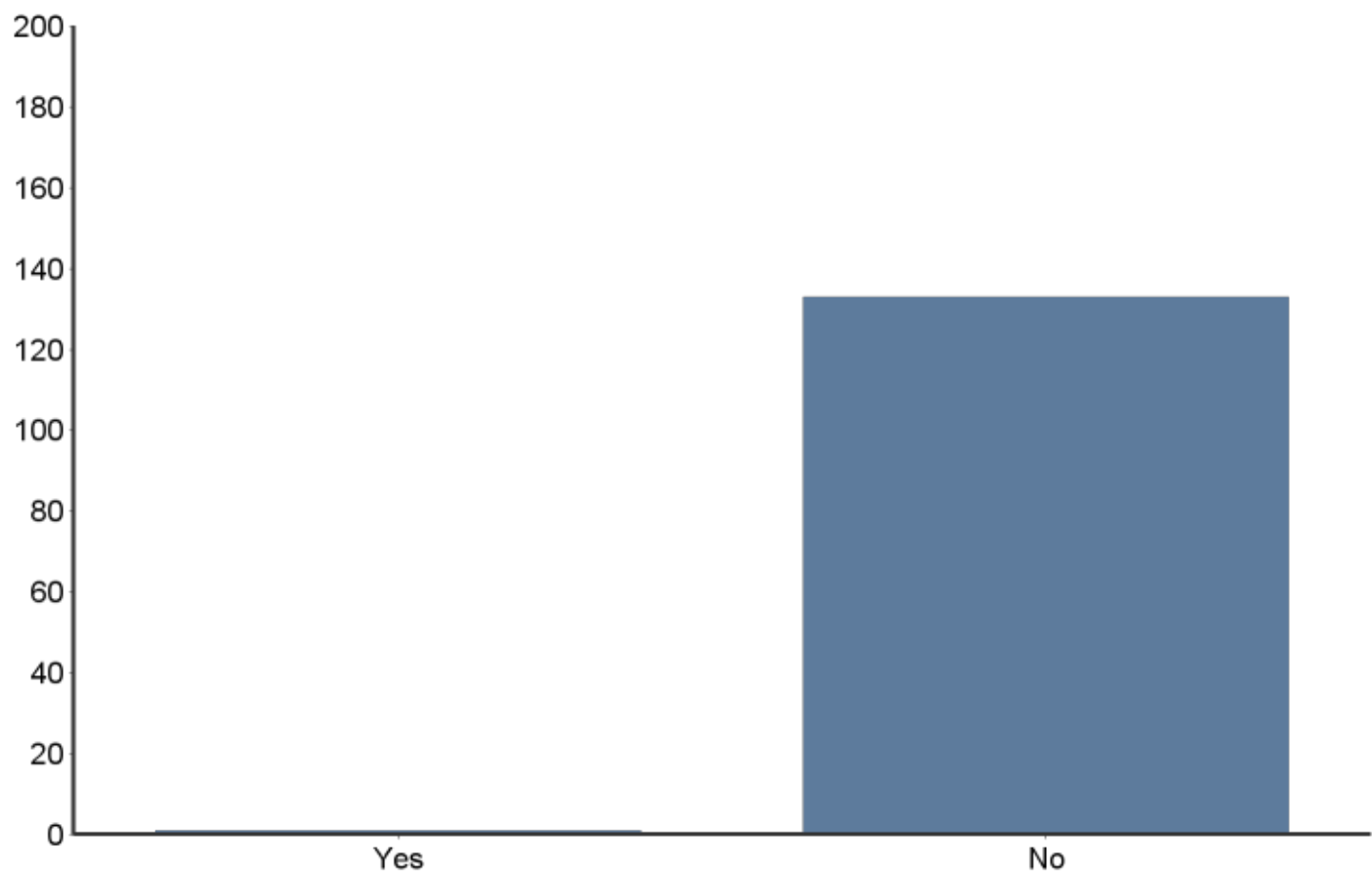
Have you been involved in a disaster?



#	Answer	Bar	Response	%
1	Yes	<div></div>	14	10.45%
2	No	<div></div>	120	89.55%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	2	1.90	0.09	0.31	134	134

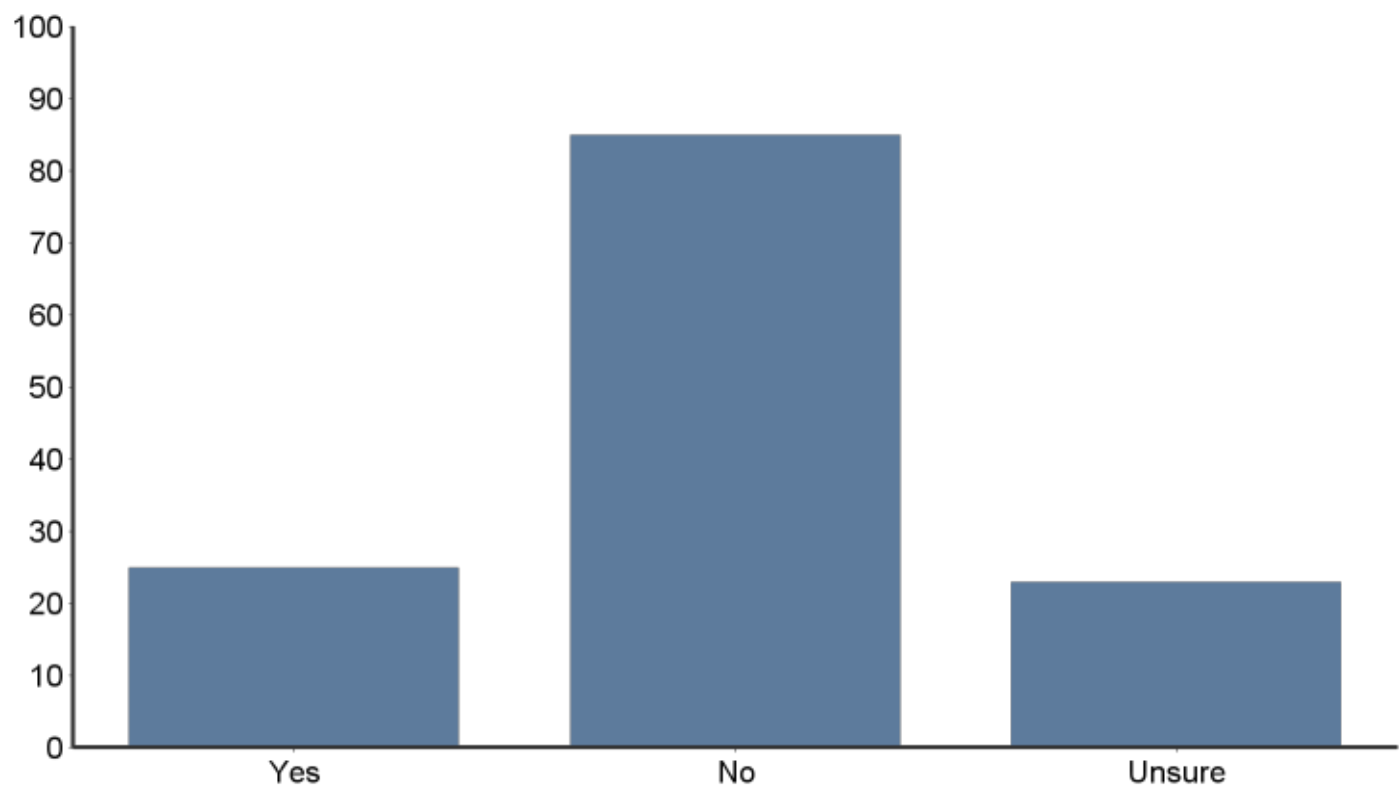
Are you a member of an emergency response team (Fire Fighter, EMT, Paramedic, etc.)?



#	Answer	Bar	Response	%
1	Yes		1	0.75%
2	No		133	99.25%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	2	1.99	0.01	0.09	134	134

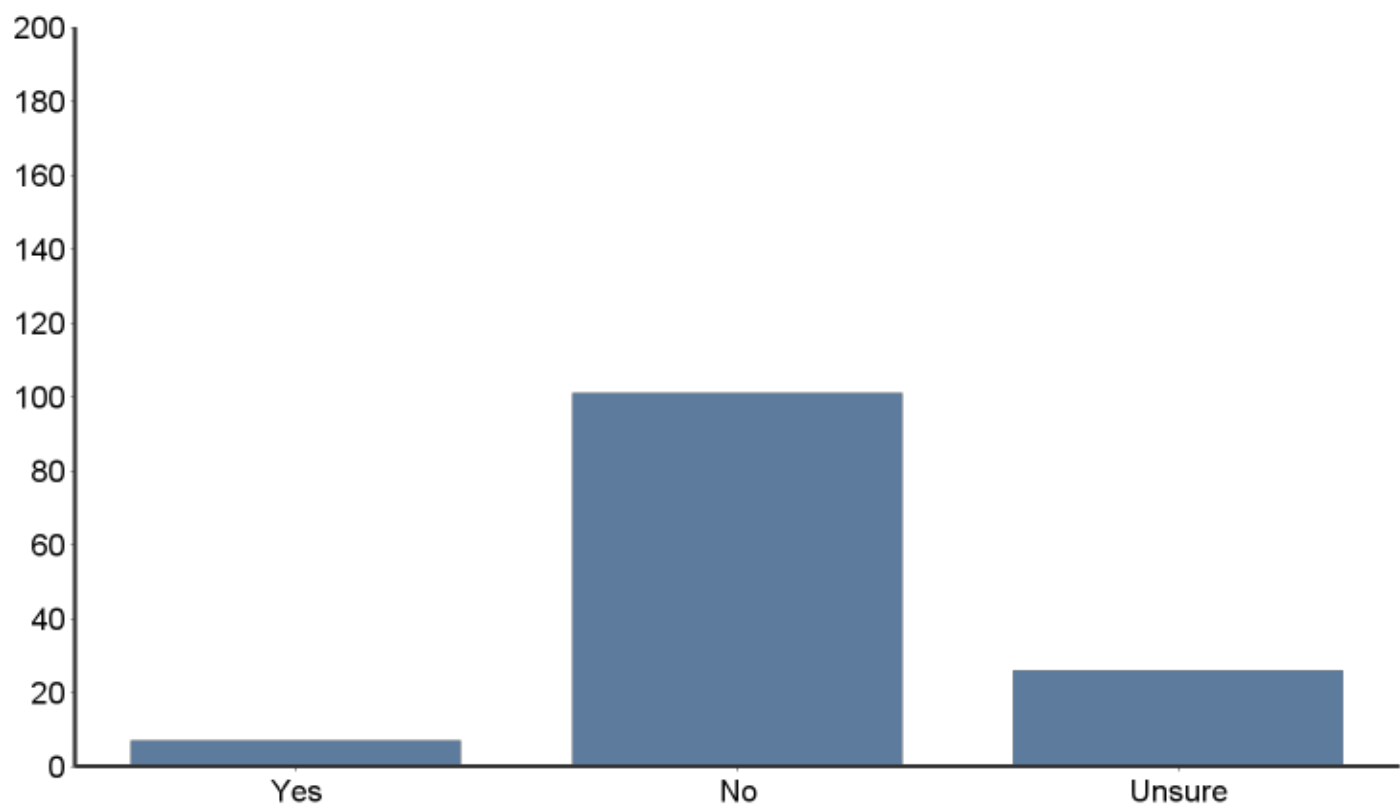
Do you believe your curriculum educates you on your expected role in clinical based institutions (hospitals, clinics, nursing homes, etc.) and community response plans activated during a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	25	18.80%
2	No	<div></div>	85	63.91%
3	Unsure	<div></div>	23	17.29%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.98	0.36	0.60	133	133

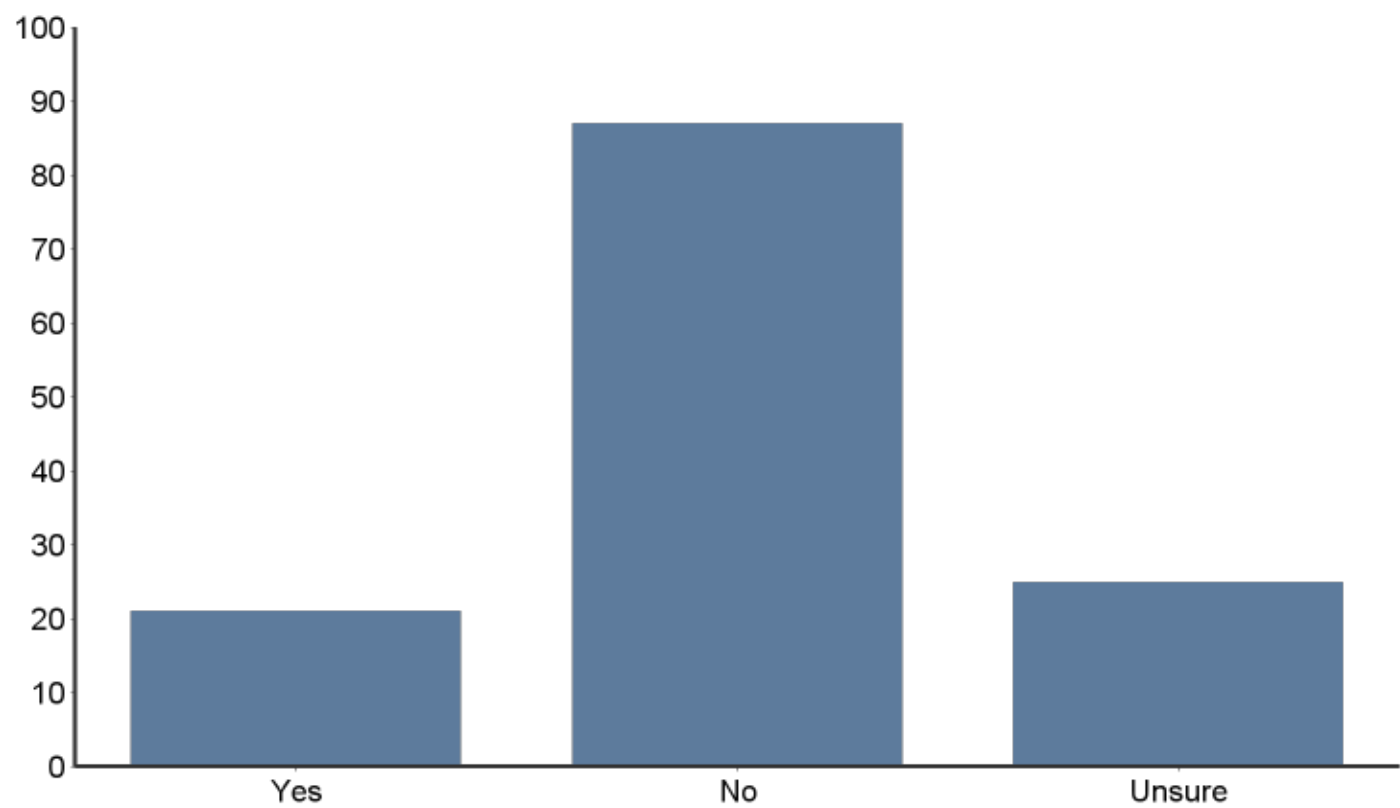
Do you believe your curriculum prepares students to develop a professional disaster plan that is consistent with your local community disaster response system?



#	Answer	Bar	Response	%
1	Yes	<div></div>	7	5.22%
2	No	<div></div>	101	75.37%
3	Unsure	<div></div>	26	19.40%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.14	0.23	0.48	134	134

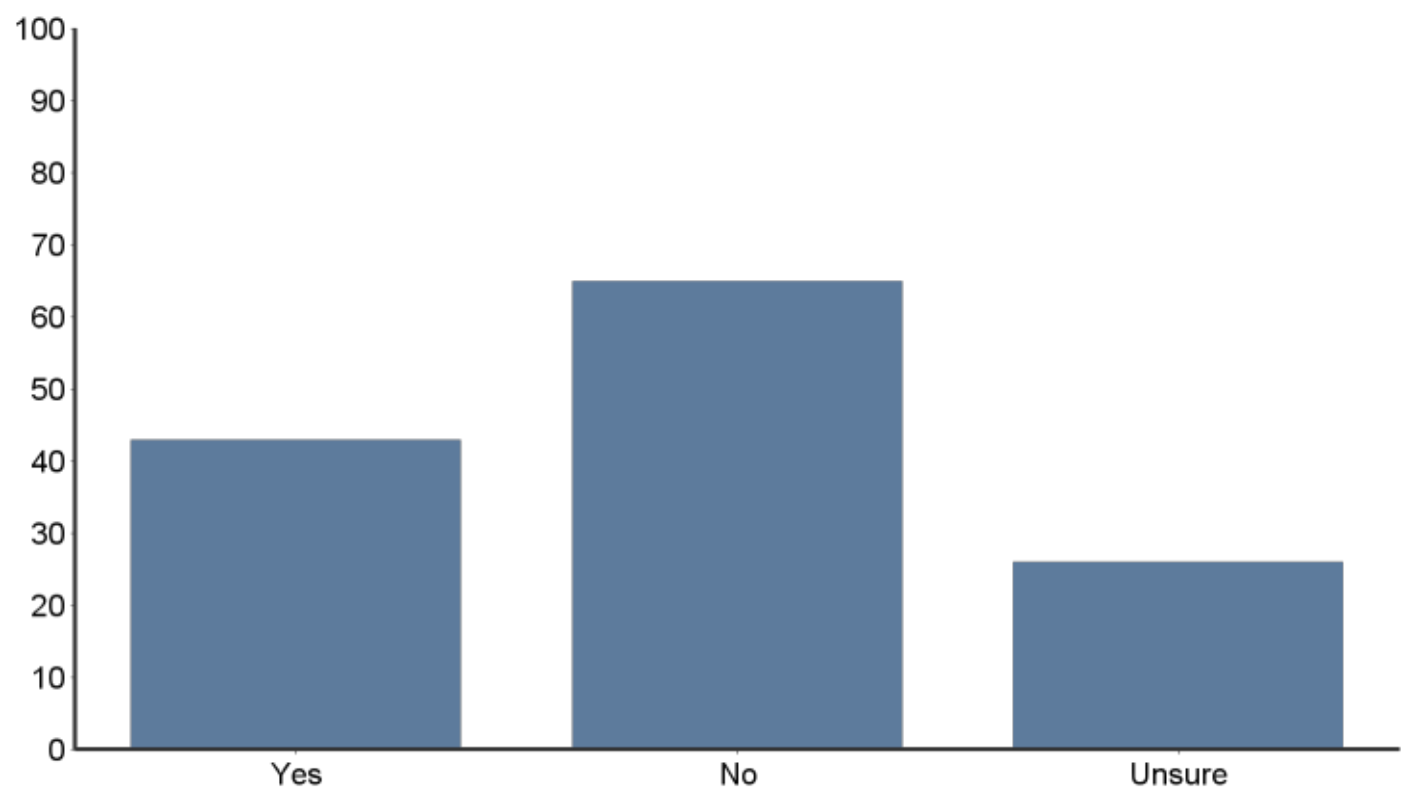
Do you believe your curriculum describes your role as a student within the incident management hierarchy and chain of command established within your community during a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	21	15.79%
2	No	<div></div>	87	65.41%
3	Unsure	<div></div>	25	18.80%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.03	0.35	0.59	133	133

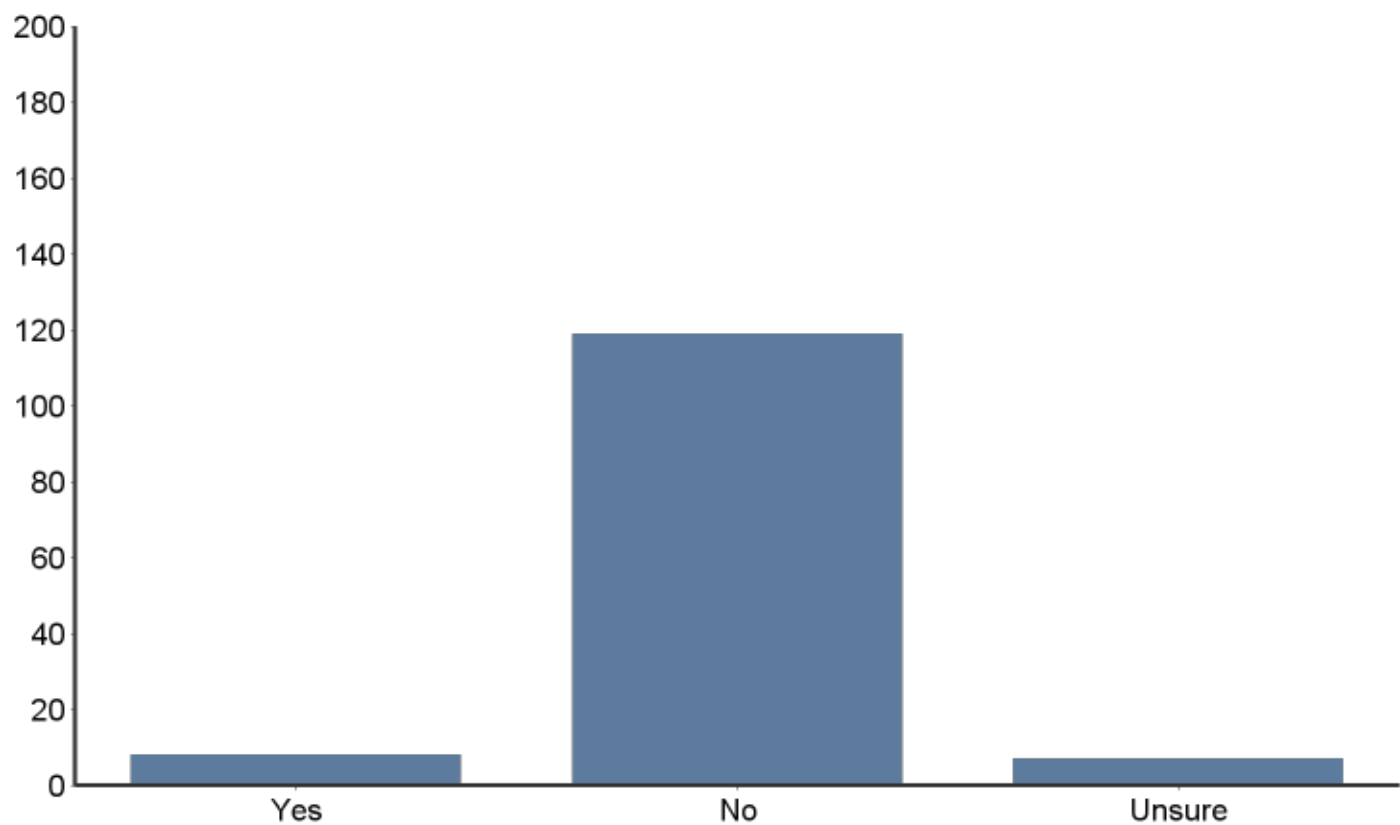
Do you believe your curriculum explains the mechanism for reporting actual and potential health threats through the chain of command authority at your institution established during a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	43	32.09%
2	No	<div></div>	65	48.51%
3	Unsure	<div></div>	26	19.40%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.87	0.50	0.71	134	134

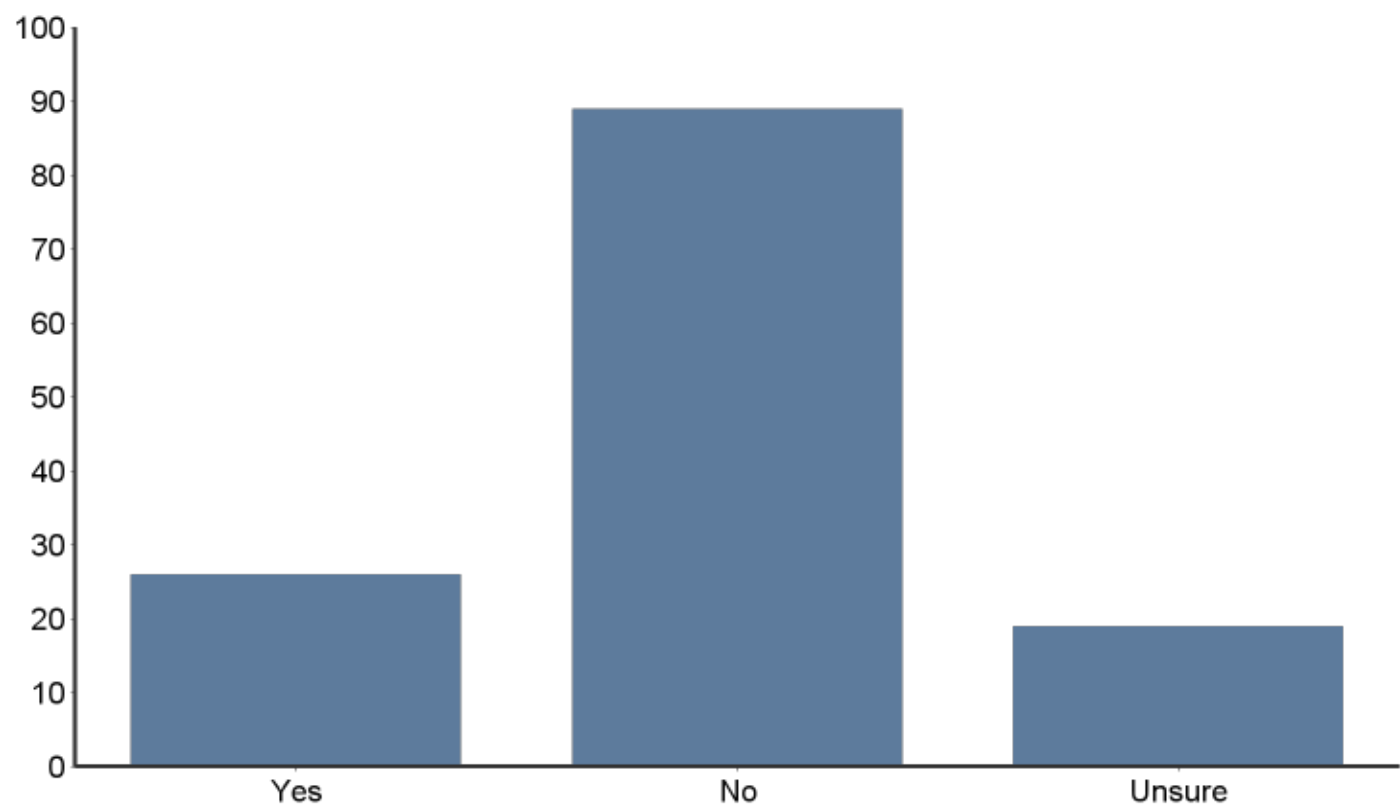
Does your curriculum teach students how to develop a personal or family disaster preparedness plan?



#	Answer	Bar	Response	%
1	Yes	<div></div>	8	5.97%
2	No	<div></div>	119	88.81%
3	Unsure	<div></div>	7	5.22%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.99	0.11	0.34	134	134

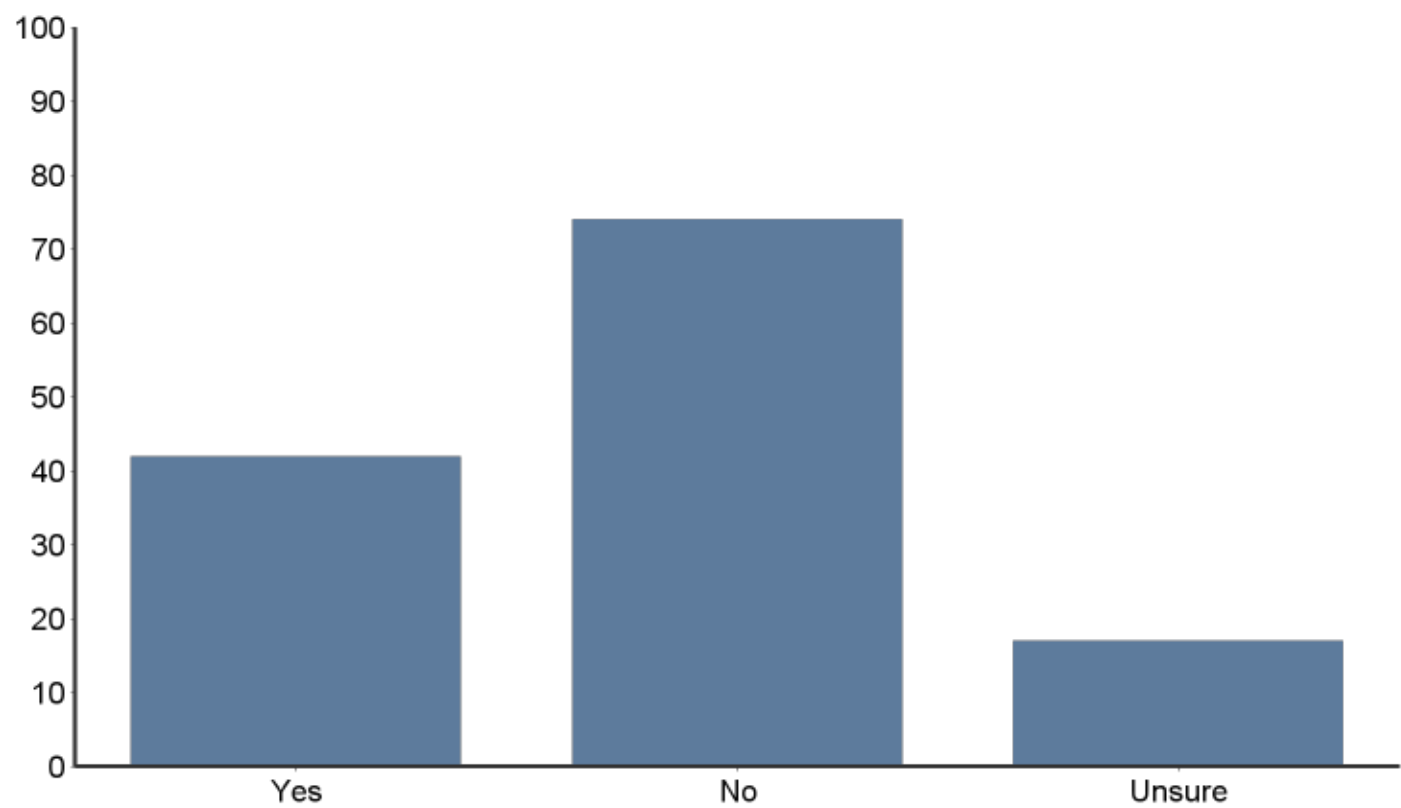
Does your curriculum educate students on mechanisms of obtaining situational awareness of actual/ potential health hazards before, during, and after a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	26	19.40%
2	No	<div></div>	89	66.42%
3	Unsure	<div></div>	19	14.18%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.95	0.34	0.58	134	134

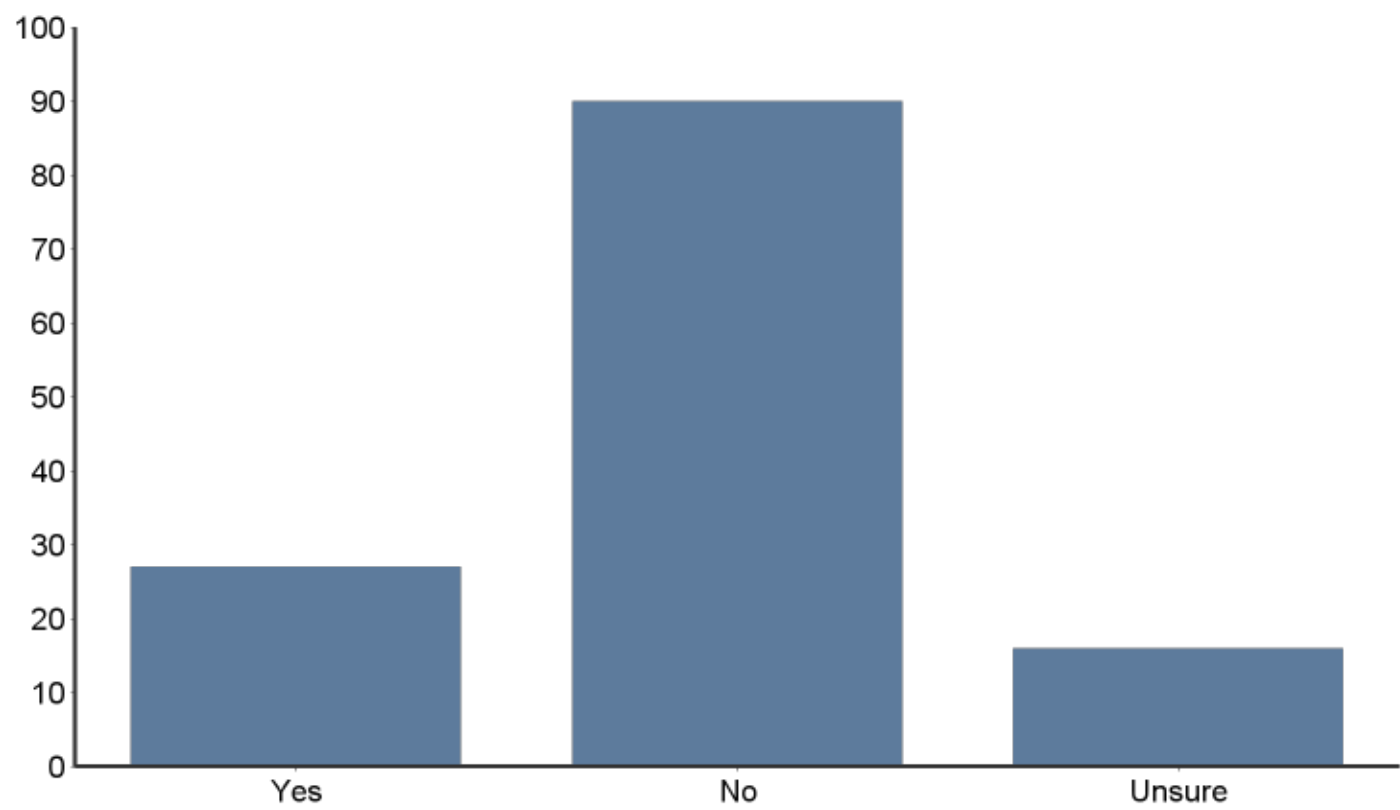
Does your curriculum educate students on general indicators and epidemiological clues that may signal the onset or exacerbation of a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	42	31.58%
2	No	<div></div>	74	55.64%
3	Unsure	<div></div>	17	12.78%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.81	0.41	0.64	133	133

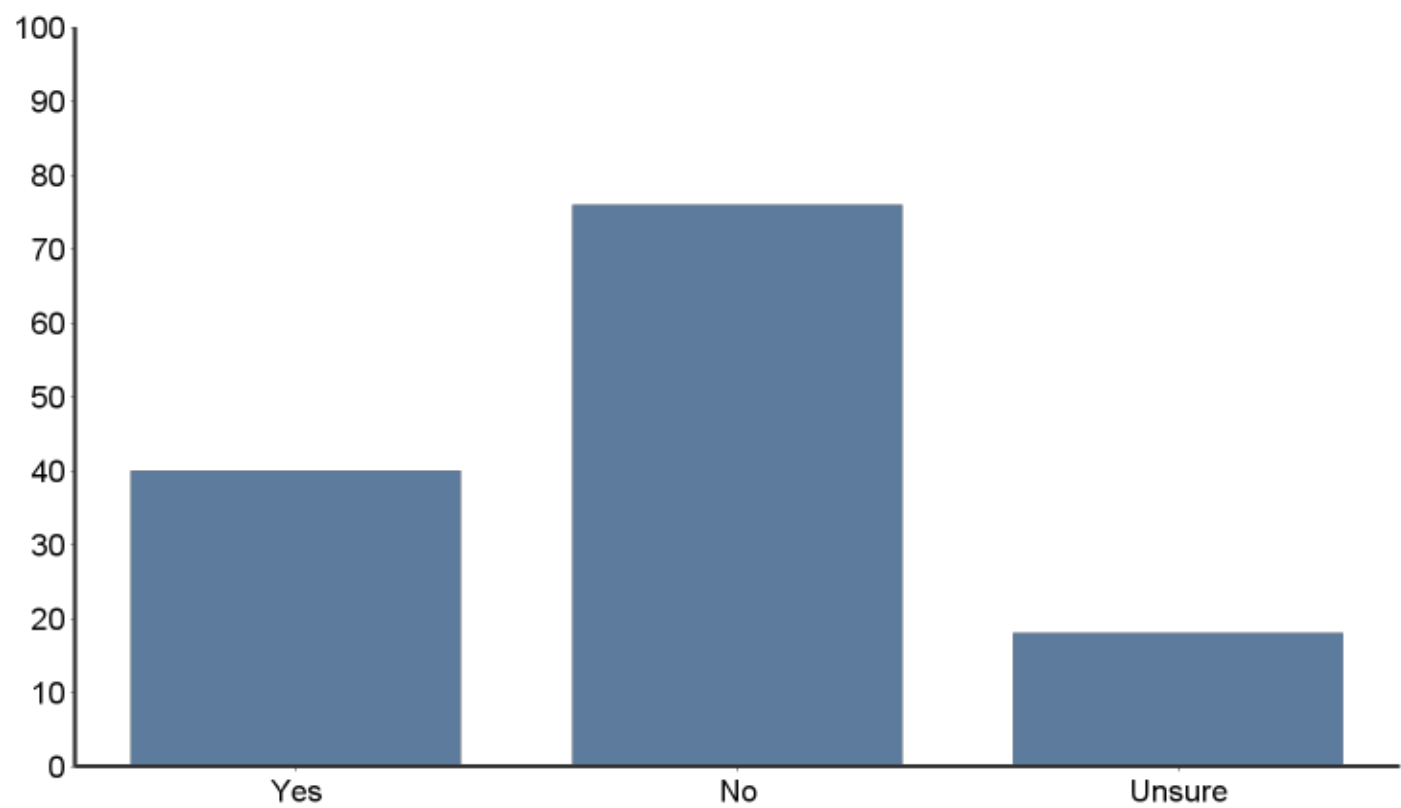
Does your curriculum describe measures to maintain situational awareness before, during, and after a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	27	20.30%
2	No	<div></div>	90	67.67%
3	Unsure	<div></div>	16	12.03%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.92	0.32	0.56	133	133

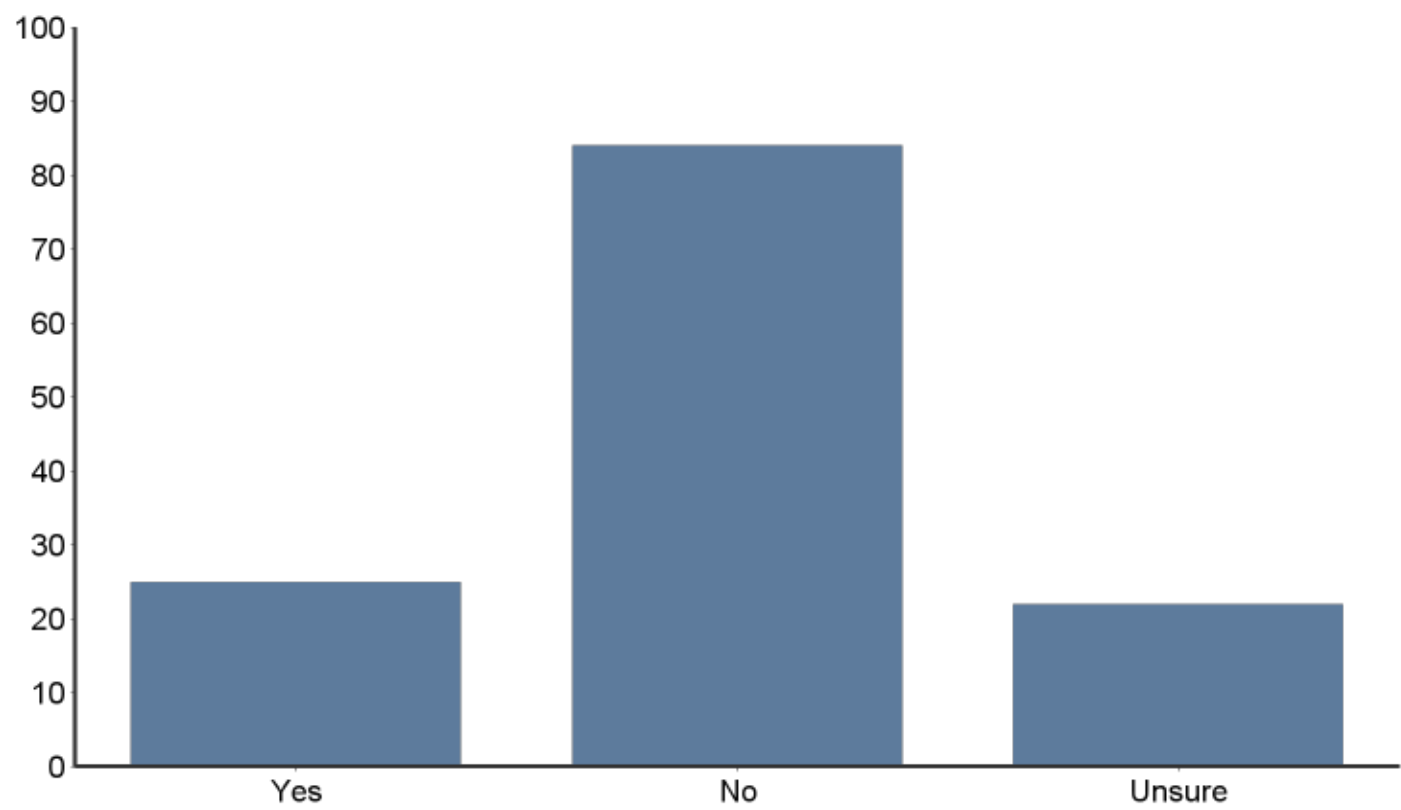
Does your curriculum educate students on how to communicate effectively with other providers during a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	40	29.85%
2	No	<div></div>	76	56.72%
3	Unsure	<div></div>	18	13.43%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.84	0.41	0.64	134	134

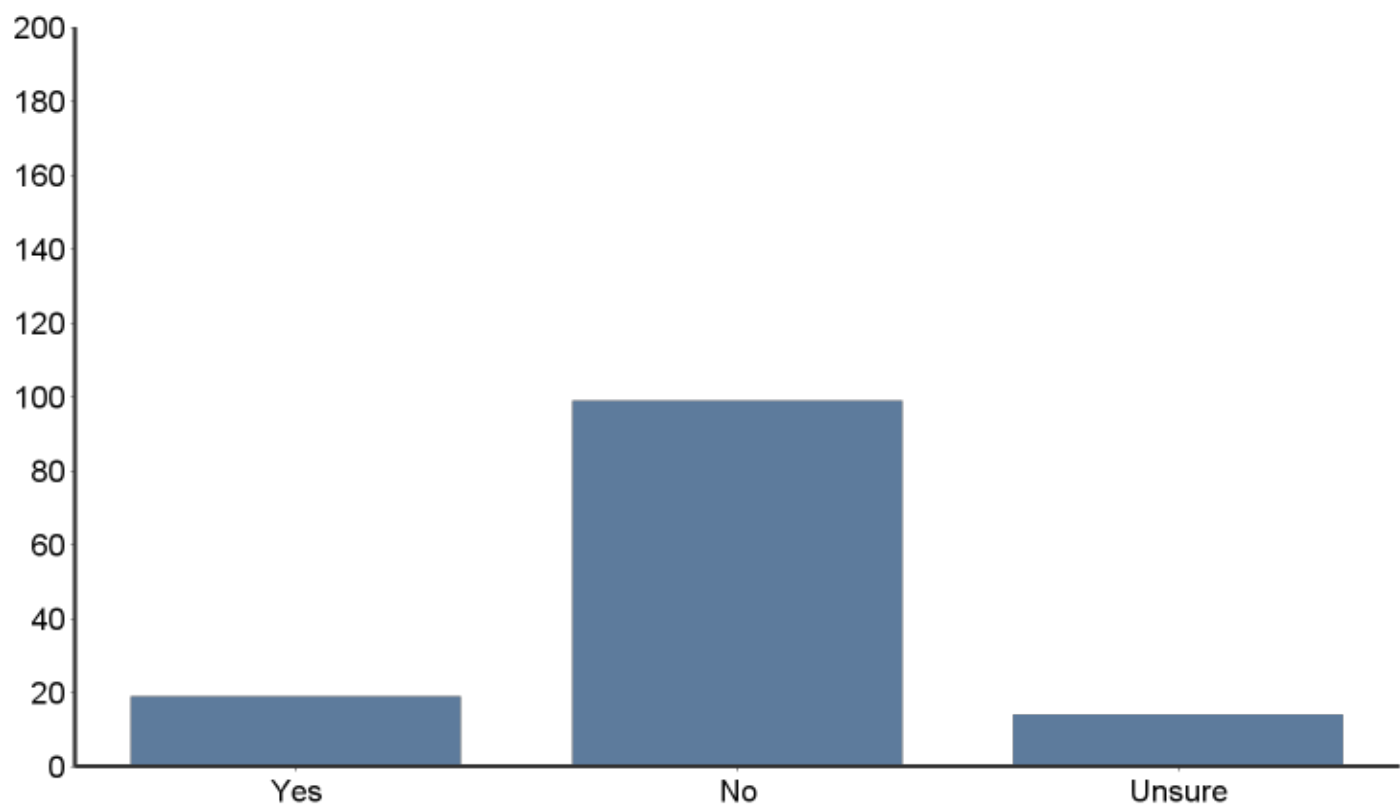
Does your curriculum educate students on identifying authoritative sources and resources for information in a disaster and public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	25	19.08%
2	No	<div></div>	84	64.12%
3	Unsure	<div></div>	22	16.79%
	Total		131	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.98	0.36	0.60	131	131

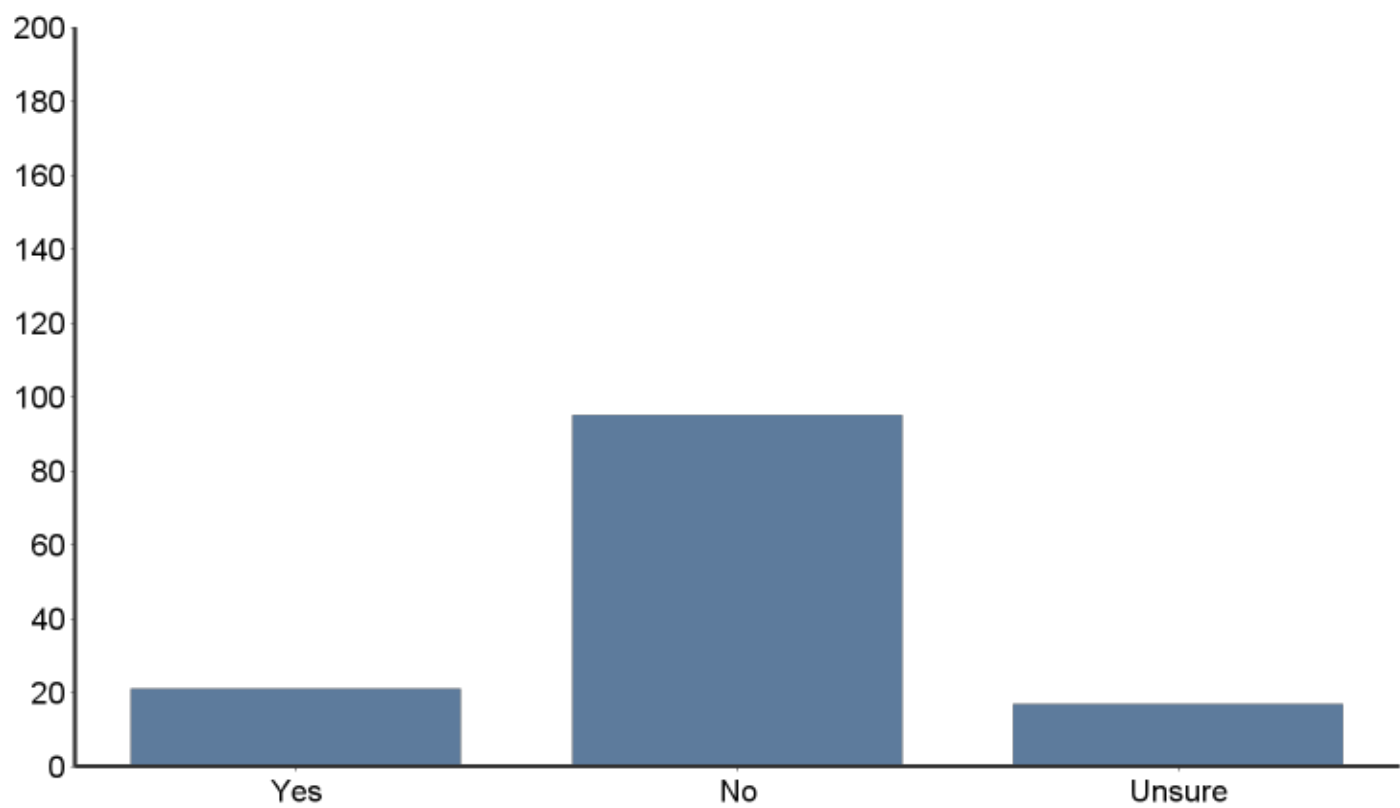
Does your curriculum explain principles of crisis and emergency risk communication to meet the needs of all ages and populations in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	19	14.39%
2	No	<div></div>	99	75.00%
3	Unsure	<div></div>	14	10.61%
	Total		132	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.96	0.25	0.50	132	132

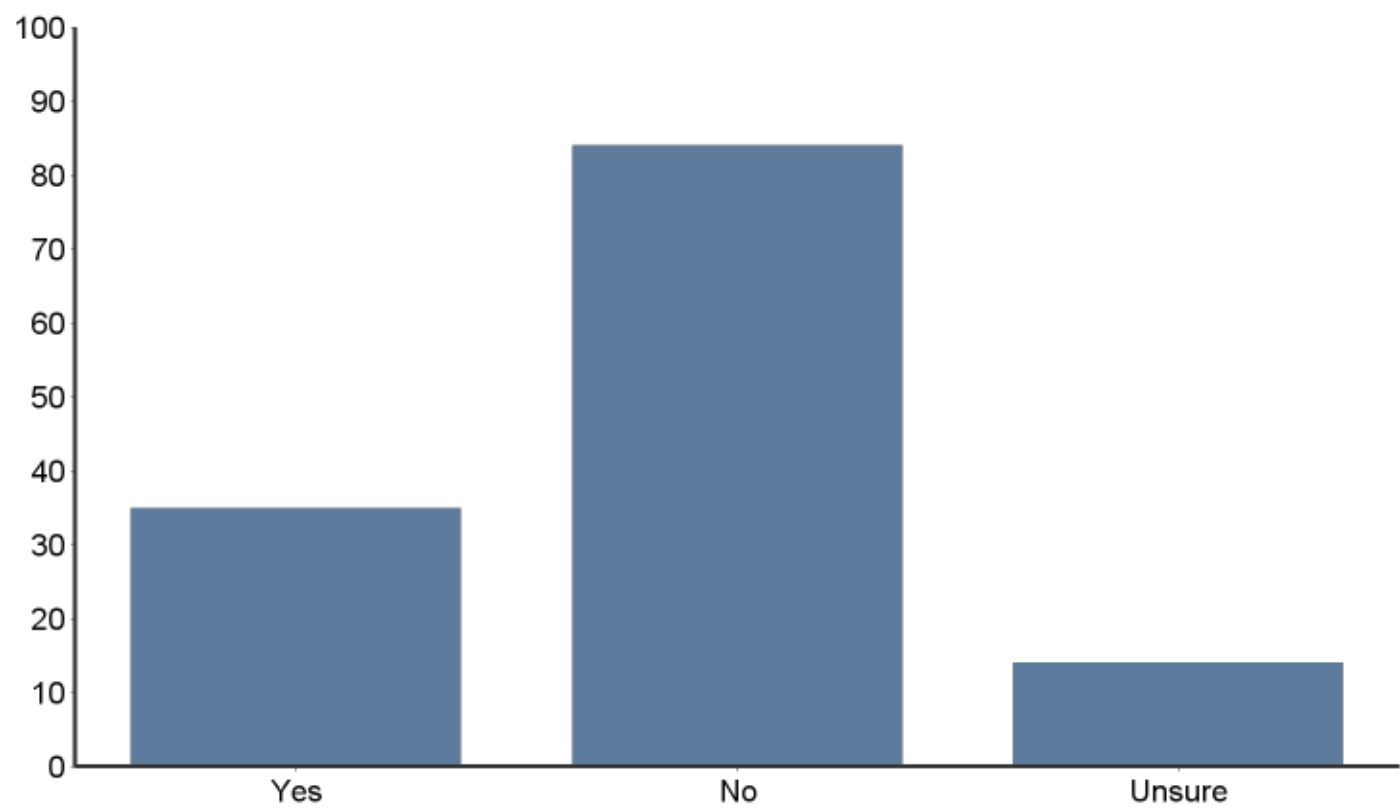
Does your curriculum identify strategies appropriate for sharing of information in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	21	15.79%
2	No	<div></div>	95	71.43%
3	Unsure	<div></div>	17	12.78%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.97	0.29	0.54	133	133

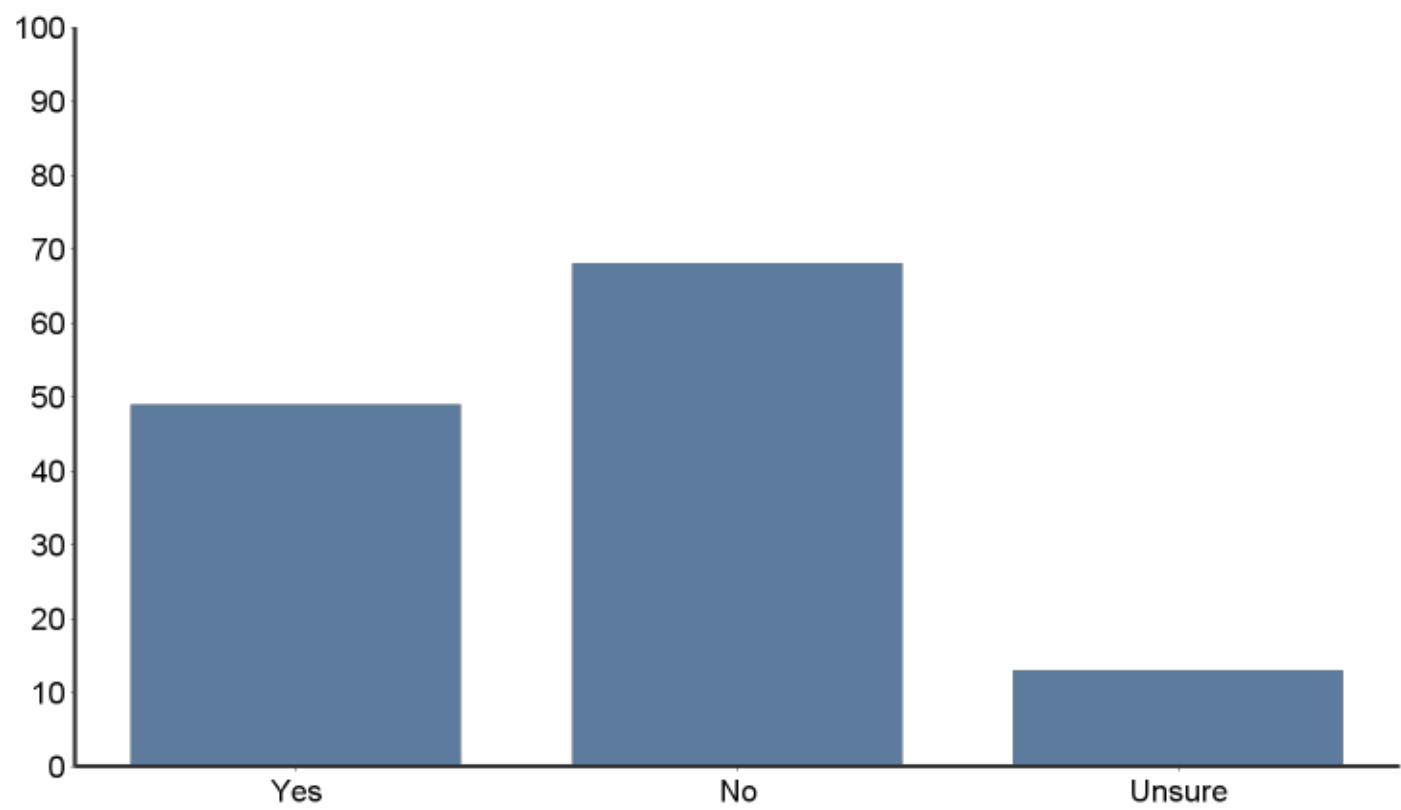
Does your curriculum describe cultural issues and challenges in the development and dissemination of risk communication in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	35	26.32%
2	No	<div></div>	84	63.16%
3	Unsure	<div></div>	14	10.53%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.84	0.35	0.59	133	133

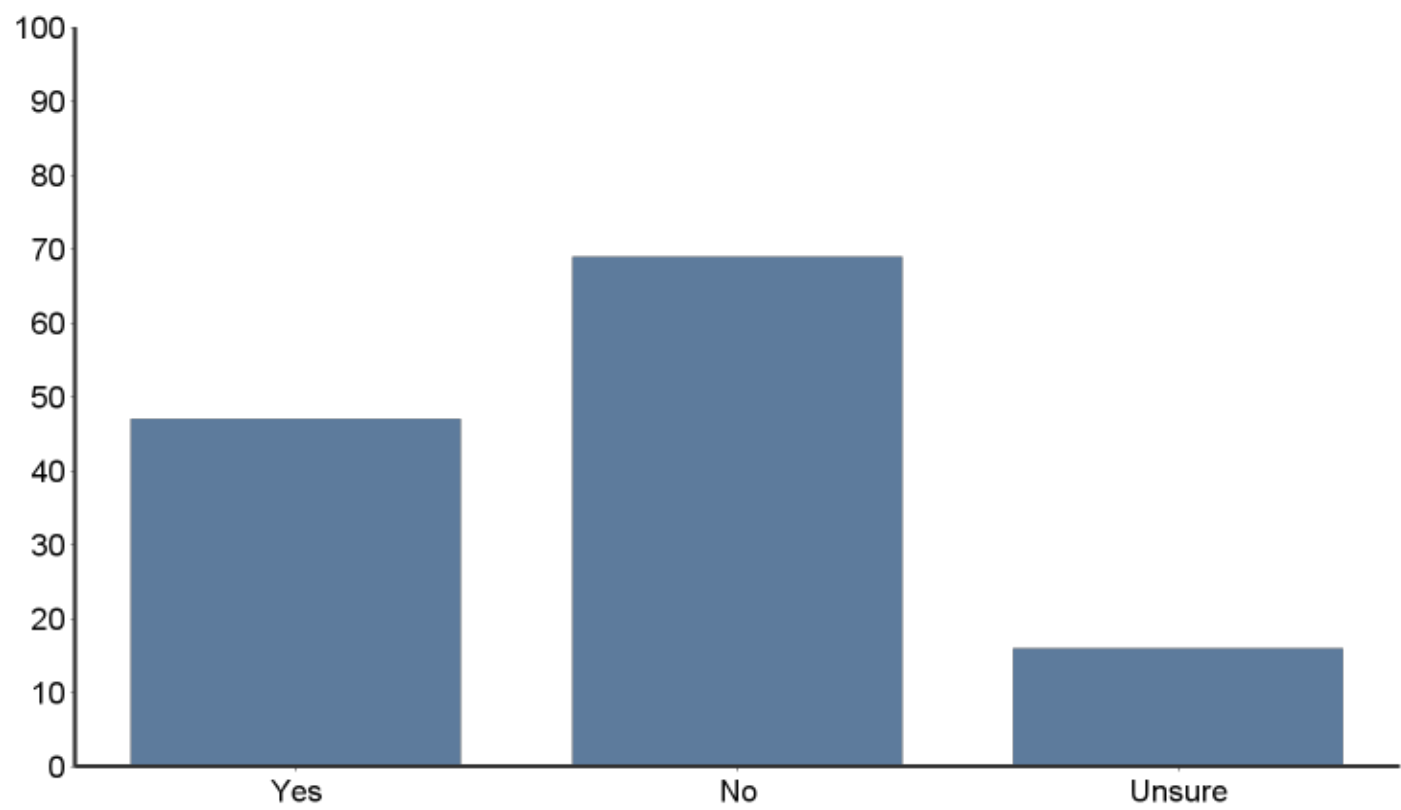
Does your curriculum educate students on personal safety measures that can be implemented in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	49	37.69%
2	No	<div></div>	68	52.31%
3	Unsure	<div></div>	13	10.00%
	Total		130	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.72	0.40	0.64	130	130

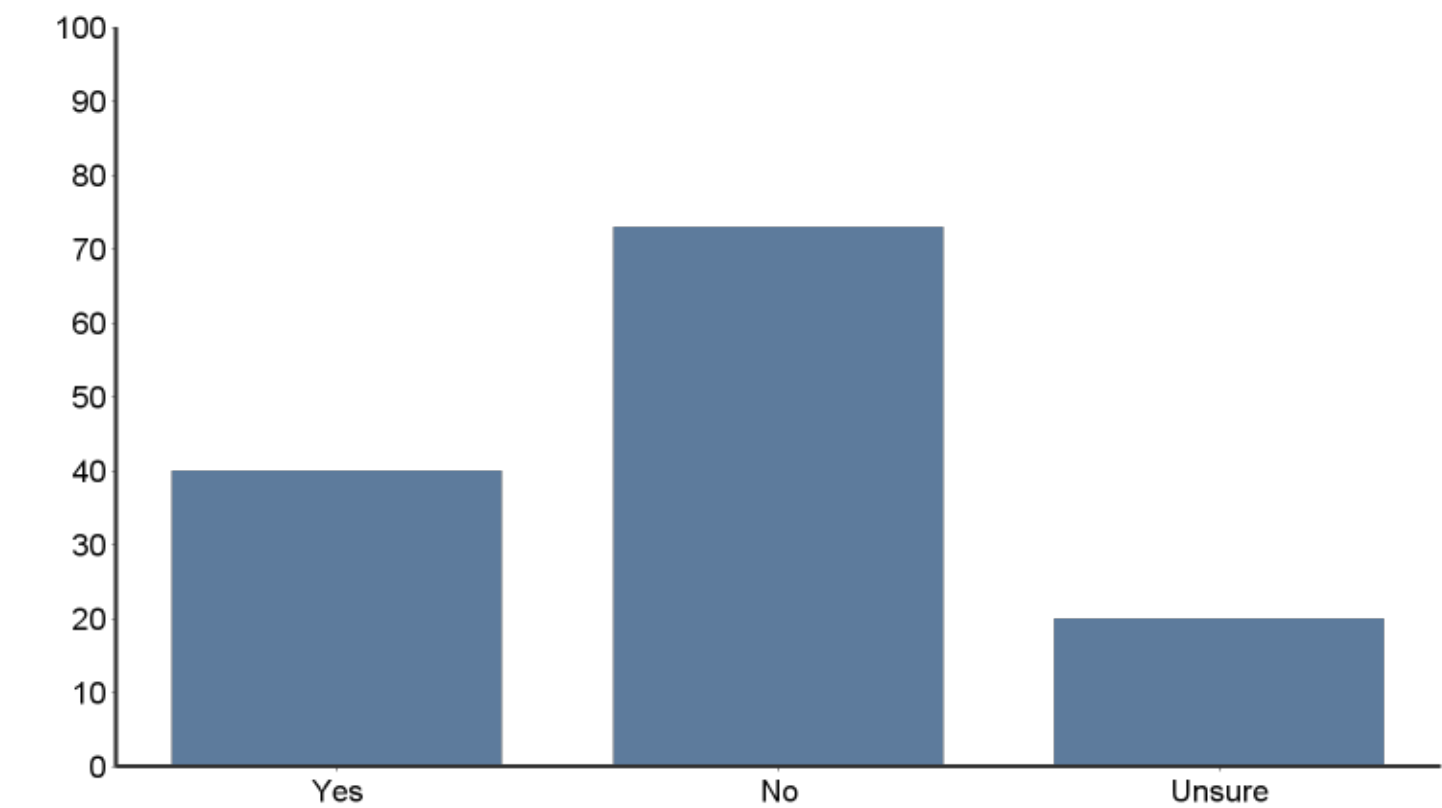
Does your curriculum explain general health, safety, and security risks associated with disasters and public health emergencies?



#	Answer	Bar	Response	%
1	Yes	<div></div>	47	35.61%
2	No	<div></div>	69	52.27%
3	Unsure	<div></div>	16	12.12%
	Total		132	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.77	0.43	0.65	132	132

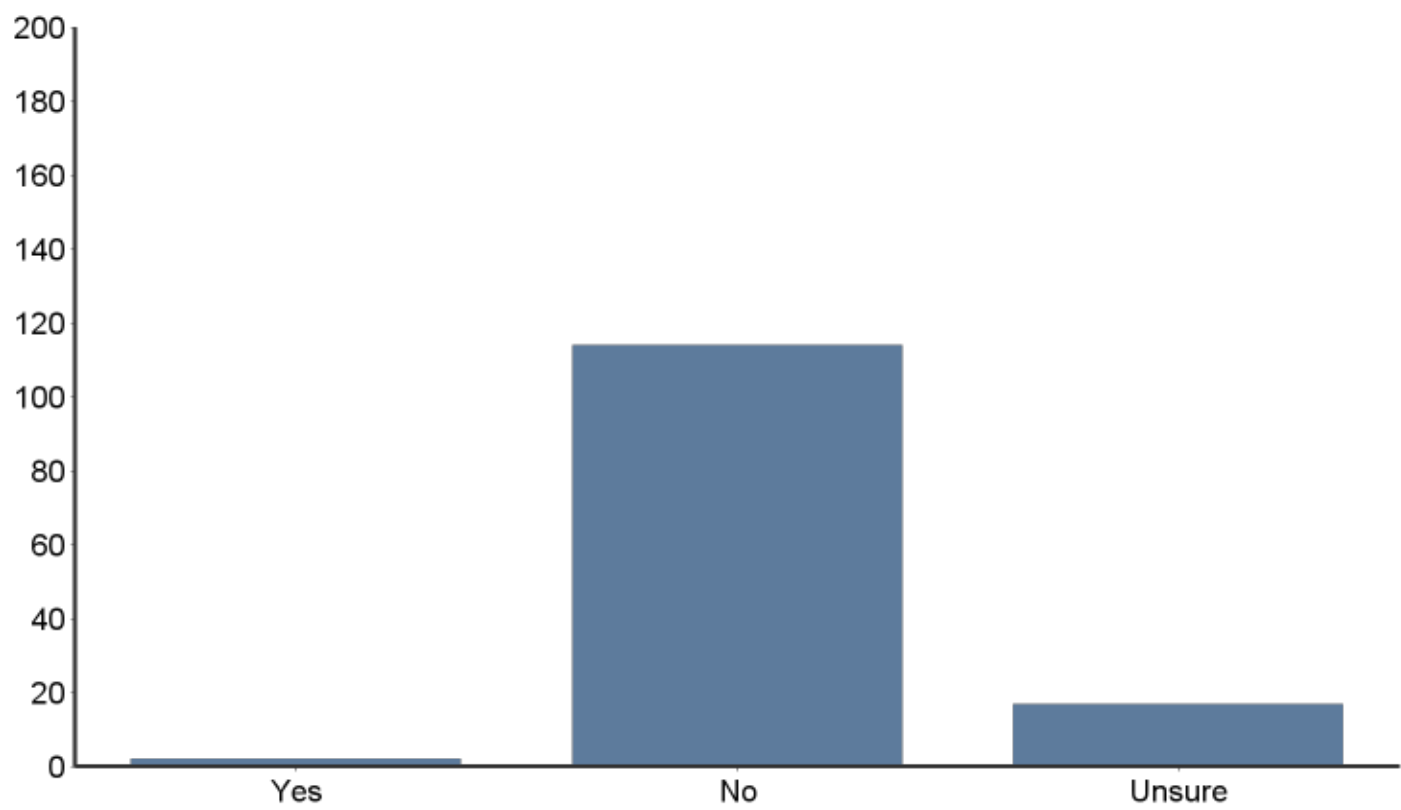
Does your curriculum describe risk reduction measures that can be implemented to mitigate or prevent hazardous exposures in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	40	30.08%
2	No	<div></div>	73	54.89%
3	Unsure	<div></div>	20	15.04%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.85	0.43	0.66	133	133

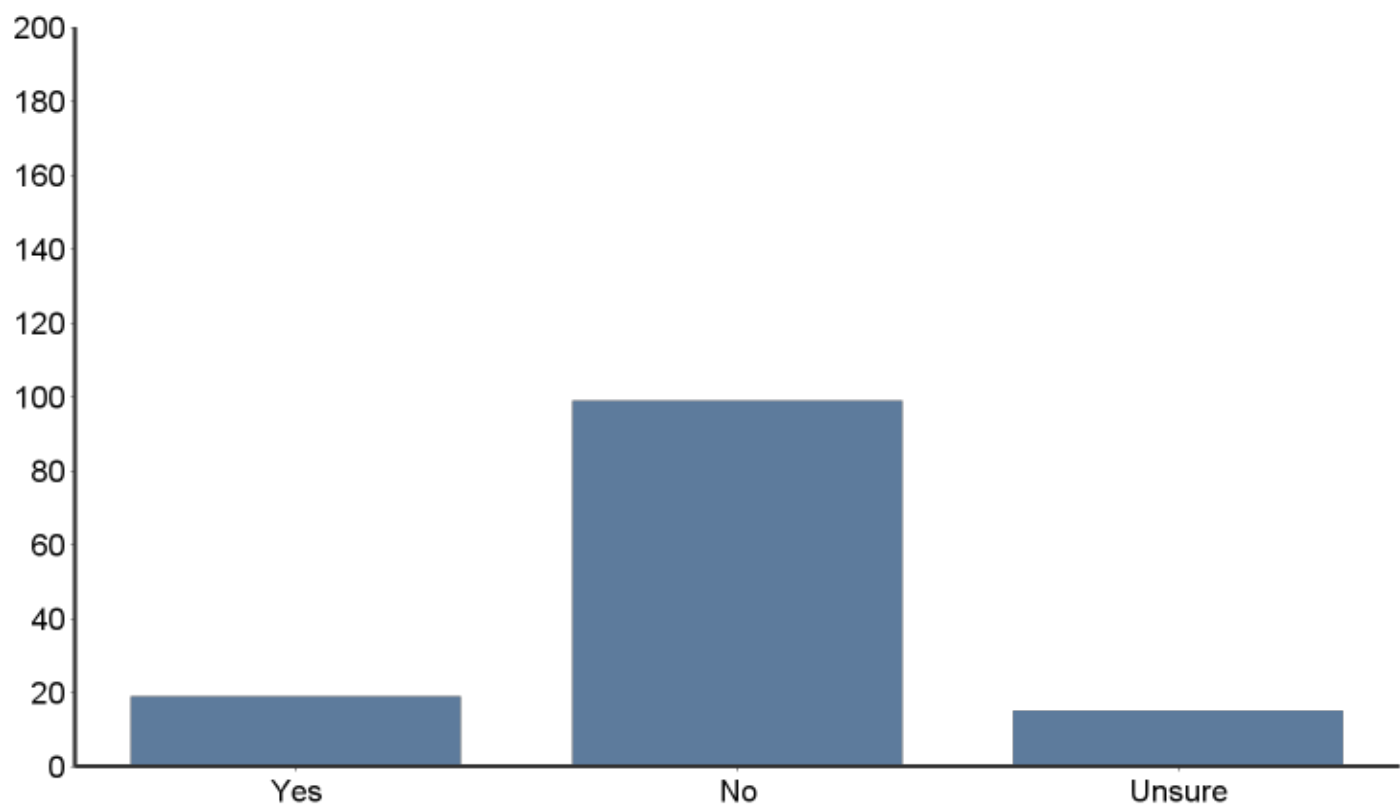
Does your curriculum educate students about surge capacity assets, consistent with the local community response plans?



#	Answer	Bar	Response	%
1	Yes		2	1.50%
2	No		114	85.71%
3	Unsure		17	12.78%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.11	0.13	0.36	133	133

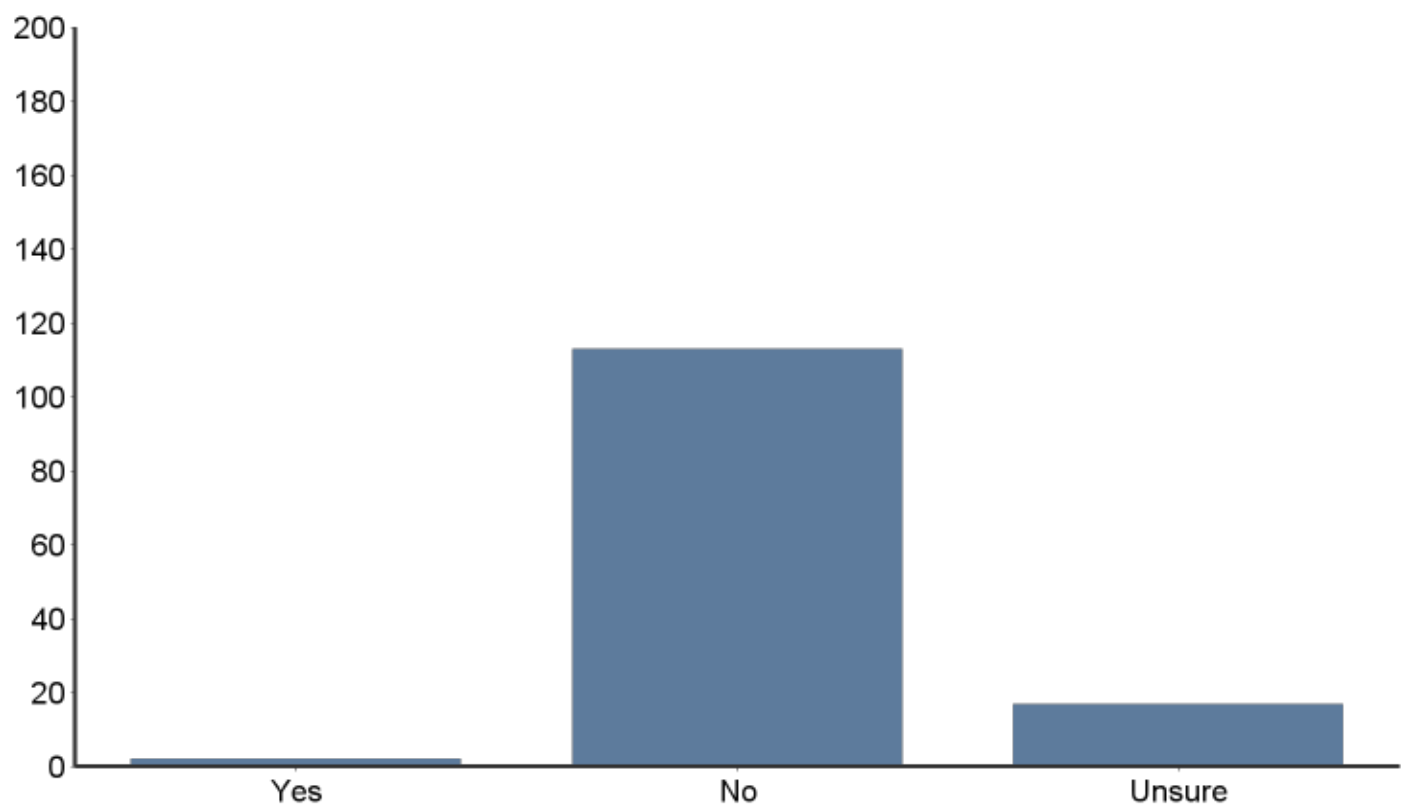
Does your curriculum describe the potential impact of a mass casualty incident on access to and availability of clinical and public health resources in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	19	14.29%
2	No	<div></div>	99	74.44%
3	Unsure	<div></div>	15	11.28%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.97	0.26	0.51	133	133

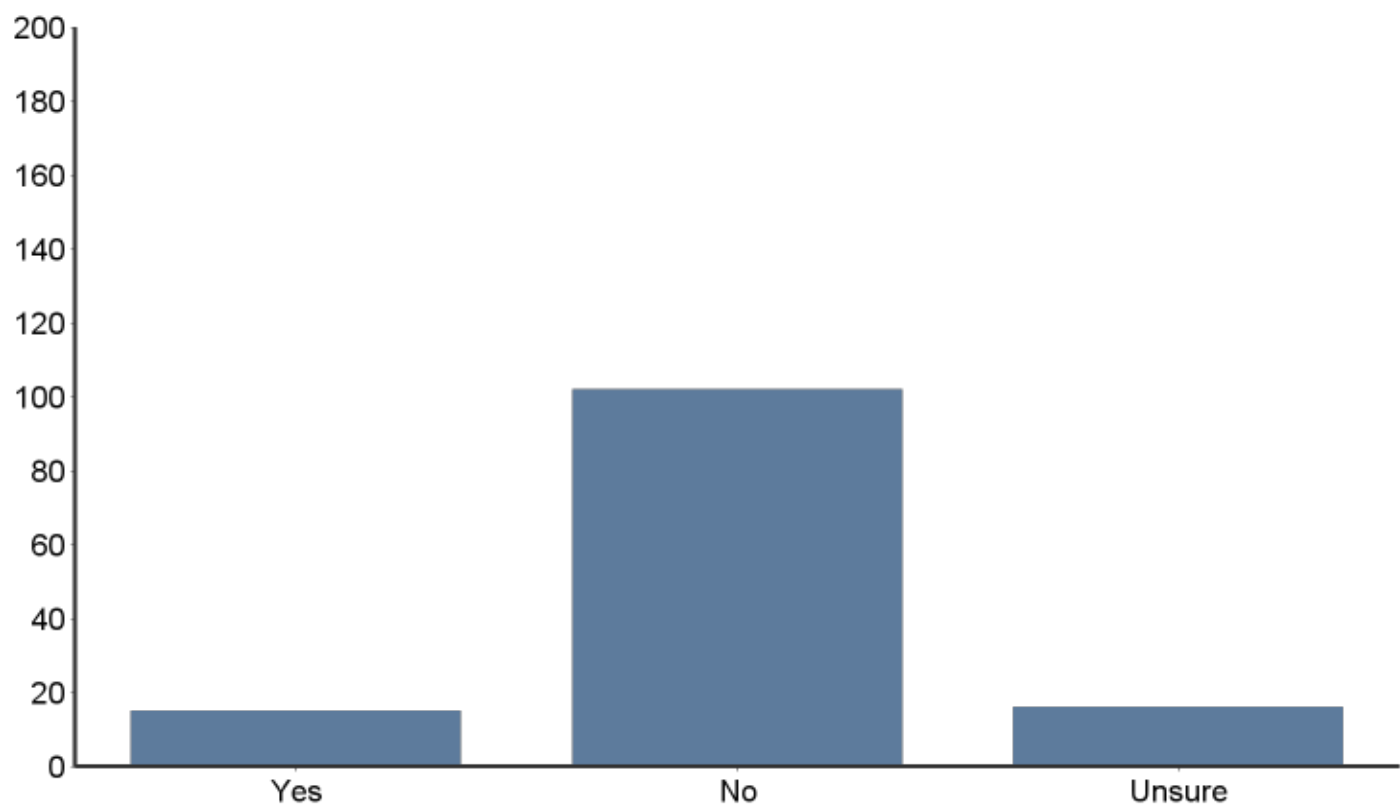
Does your curriculum educate students how to identify existing surge capacity assets which could be deployed in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes		2	1.52%
2	No		113	85.61%
3	Unsure		17	12.88%
	Total		132	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.11	0.13	0.36	132	132

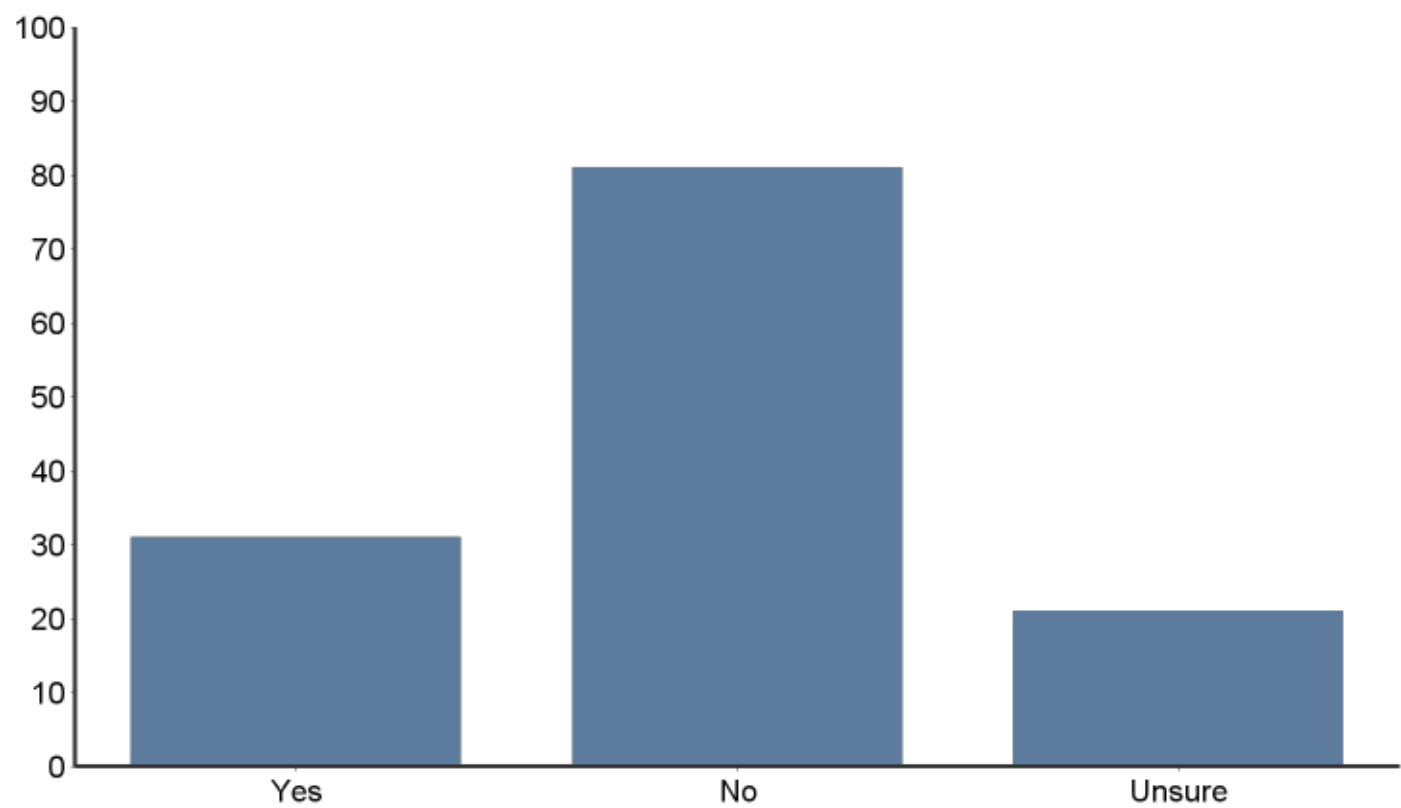
Does your curriculum educate students on the principles and practices of providing disaster clinical management of all ages and populations affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	15	11.28%
2	No	<div></div>	102	76.69%
3	Unsure	<div></div>	16	12.03%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.01	0.23	0.48	133	133

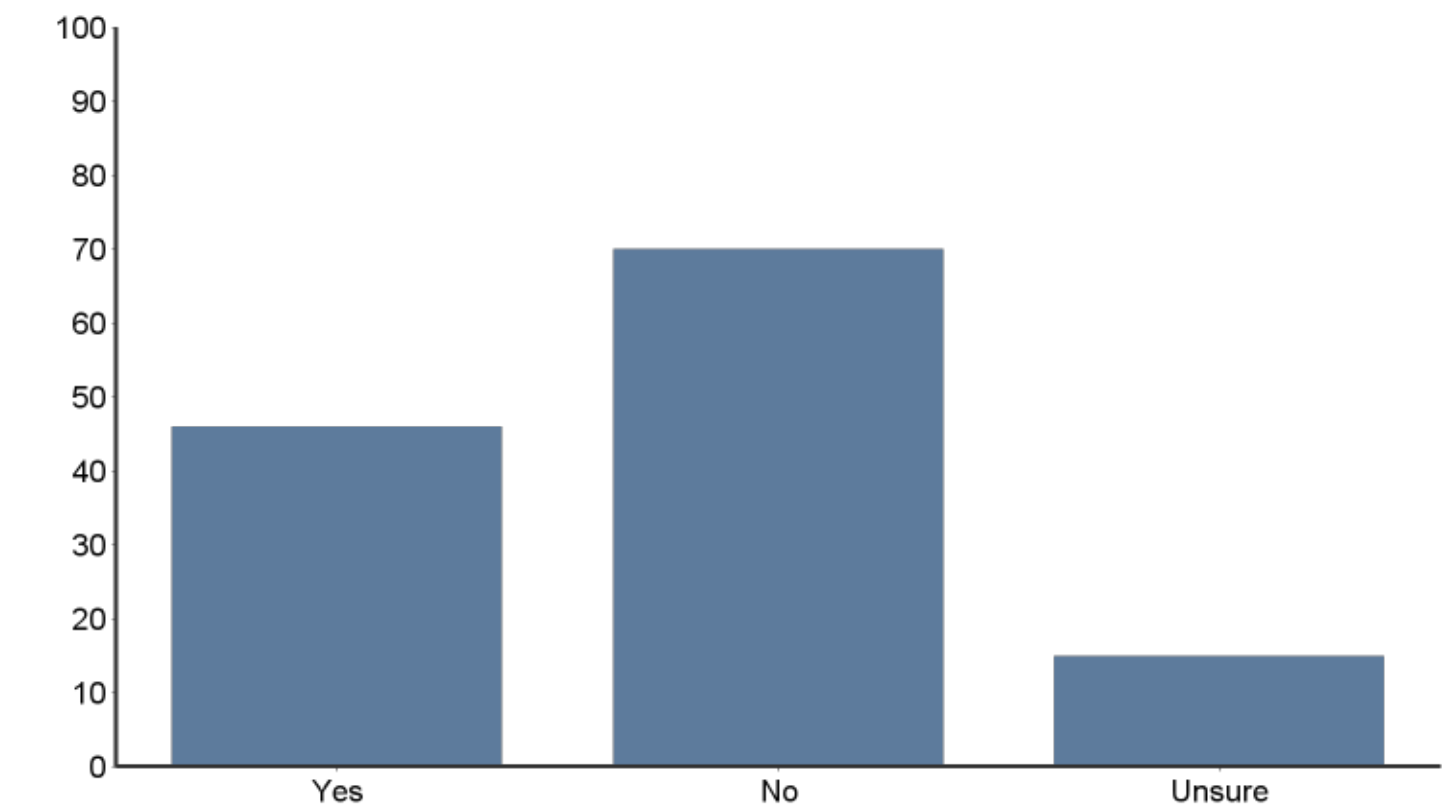
Does your curriculum educate students on the common physical and mental health consequences for all ages and populations affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	31	23.31%
2	No	<div></div>	81	60.90%
3	Unsure	<div></div>	21	15.79%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.92	0.39	0.62	133	133

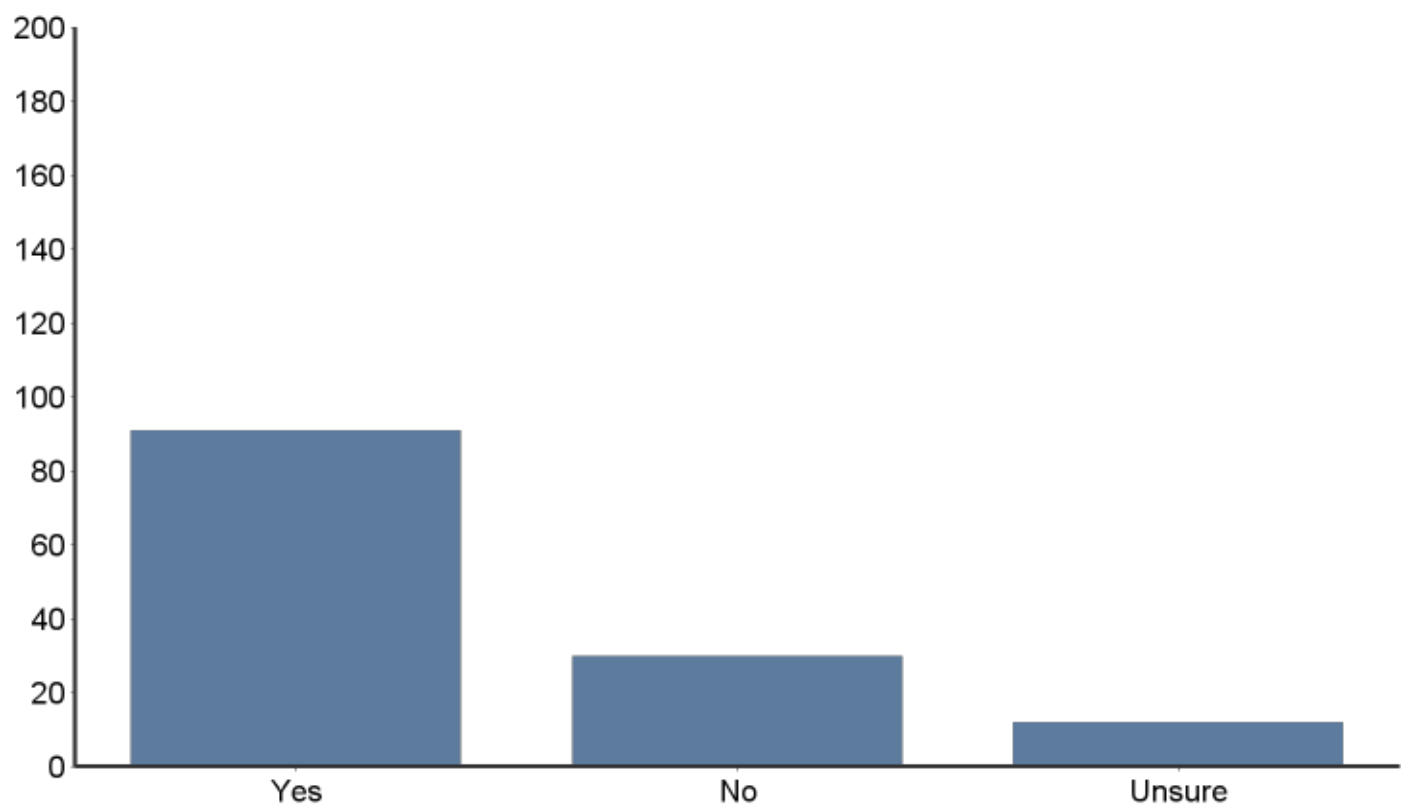
Does your curriculum explain the role of triage as a basis for prioritizing or rationing healthcare services for all ages and populations affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	46	35.11%
2	No	<div></div>	70	53.44%
3	Unsure	<div></div>	15	11.45%
	Total		131	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.76	0.41	0.64	131	131

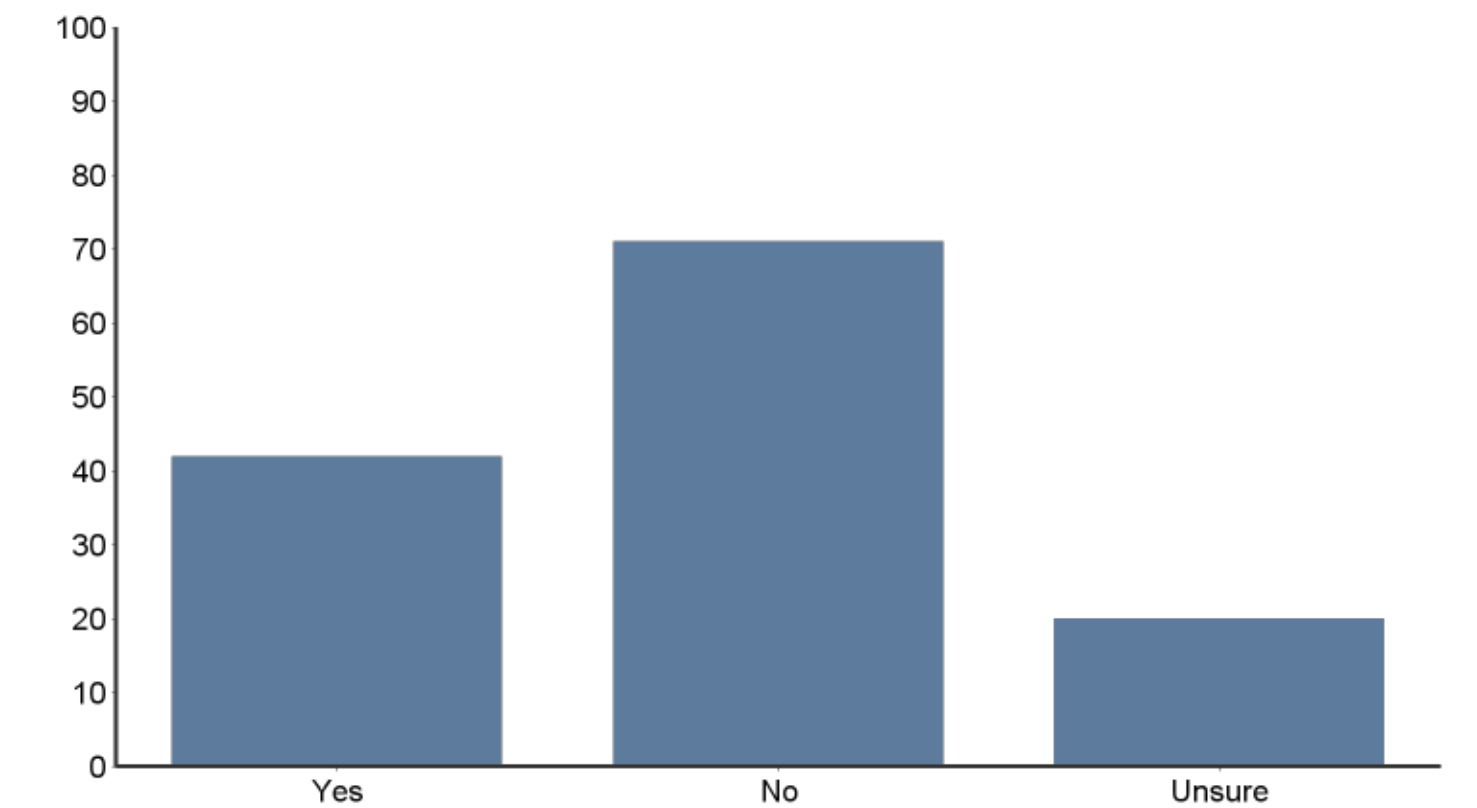
Does your curriculum educate students on basic lifesaving and support principles and procedures that can be utilized at a disaster scene?



#	Answer	Bar	Response	%
1	Yes	<div></div>	91	68.42%
2	No	<div></div>	30	22.56%
3	Unsure	<div></div>	12	9.02%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.41	0.42	0.65	133	133

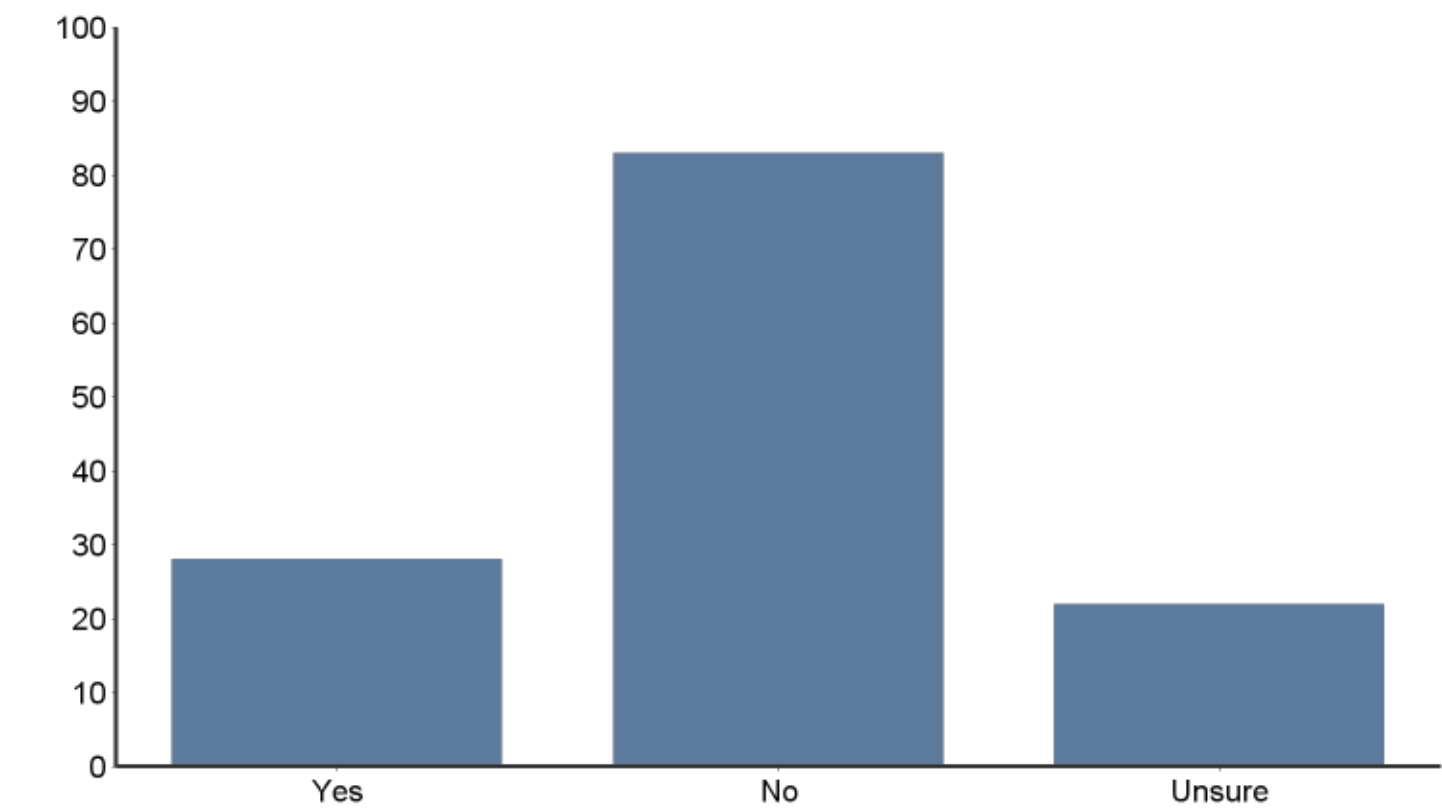
Does your curriculum educate students on the public health principles and practices for the management of all ages and populations affected by disasters and public health emergencies?



#	Answer	Bar	Response	%
1	Yes	<div></div>	42	31.58%
2	No	<div></div>	71	53.38%
3	Unsure	<div></div>	20	15.04%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.83	0.44	0.66	133	133

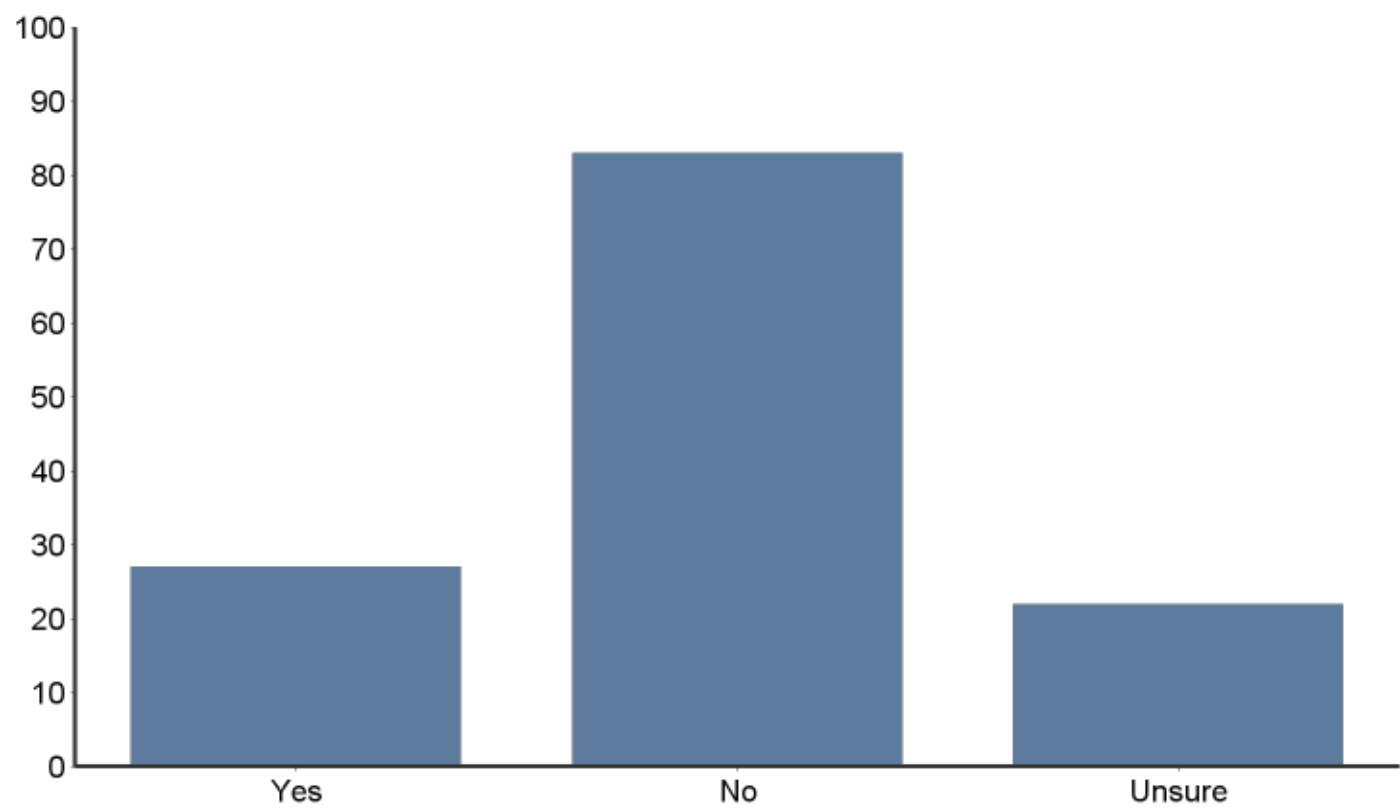
Does your curriculum educate students on the public health consequences frequently seen in disasters and public health emergencies?



#	Answer	Bar	Response	%
1	Yes	<div></div>	28	21.05%
2	No	<div></div>	83	62.41%
3	Unsure	<div></div>	22	16.54%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.95	0.38	0.61	133	133

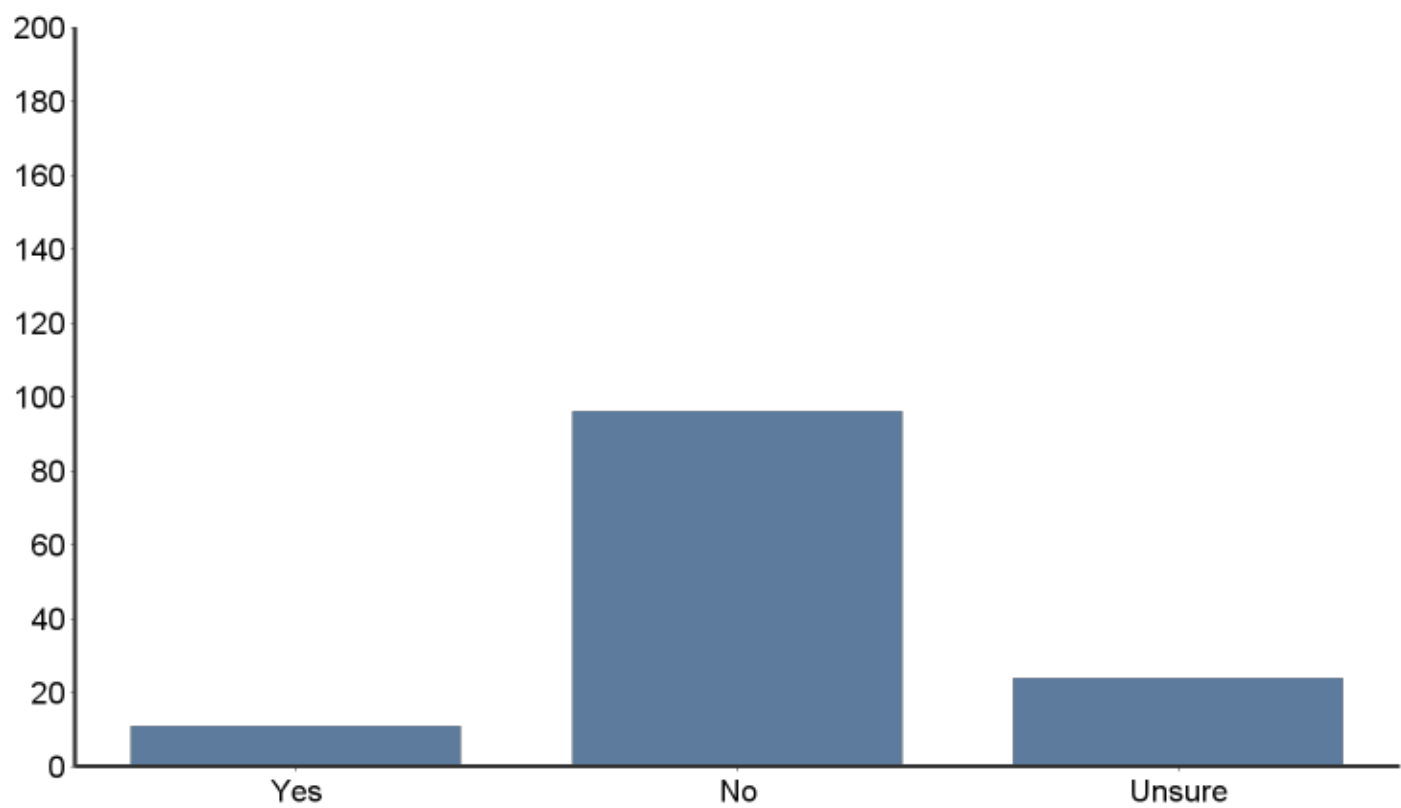
Does your curriculum educate students on identifying functional and access populations needs of all ages that may be more vulnerable to adverse health effects in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	27	20.45%
2	No	<div></div>	83	62.88%
3	Unsure	<div></div>	22	16.67%
	Total		132	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.96	0.37	0.61	132	132

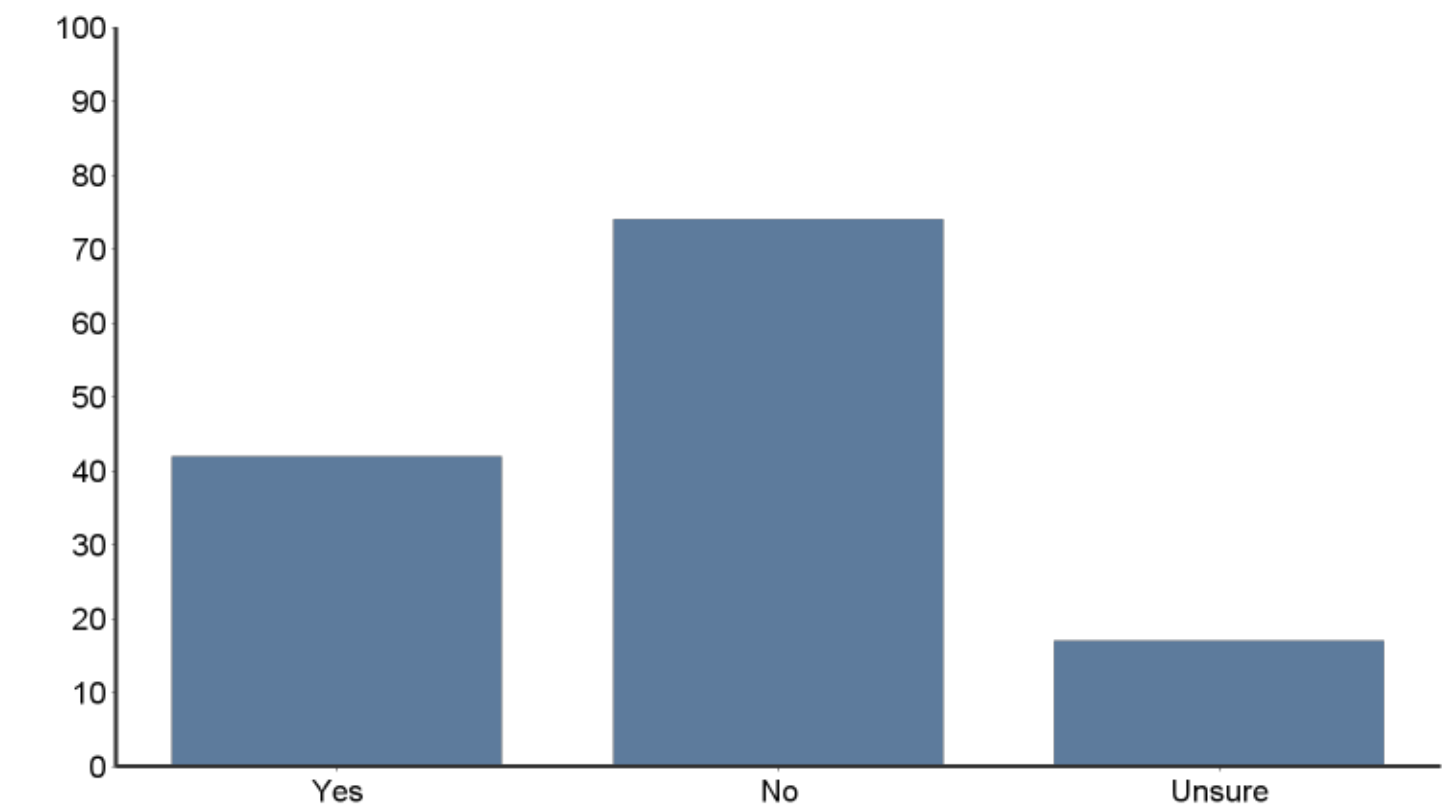
Does your curriculum discuss strategies to address and engage functional and access needs populations to mitigate adverse health effects during a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	11	8.40%
2	No	<div></div>	96	73.28%
3	Unsure	<div></div>	24	18.32%
	Total		131	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.10	0.26	0.51	131	131

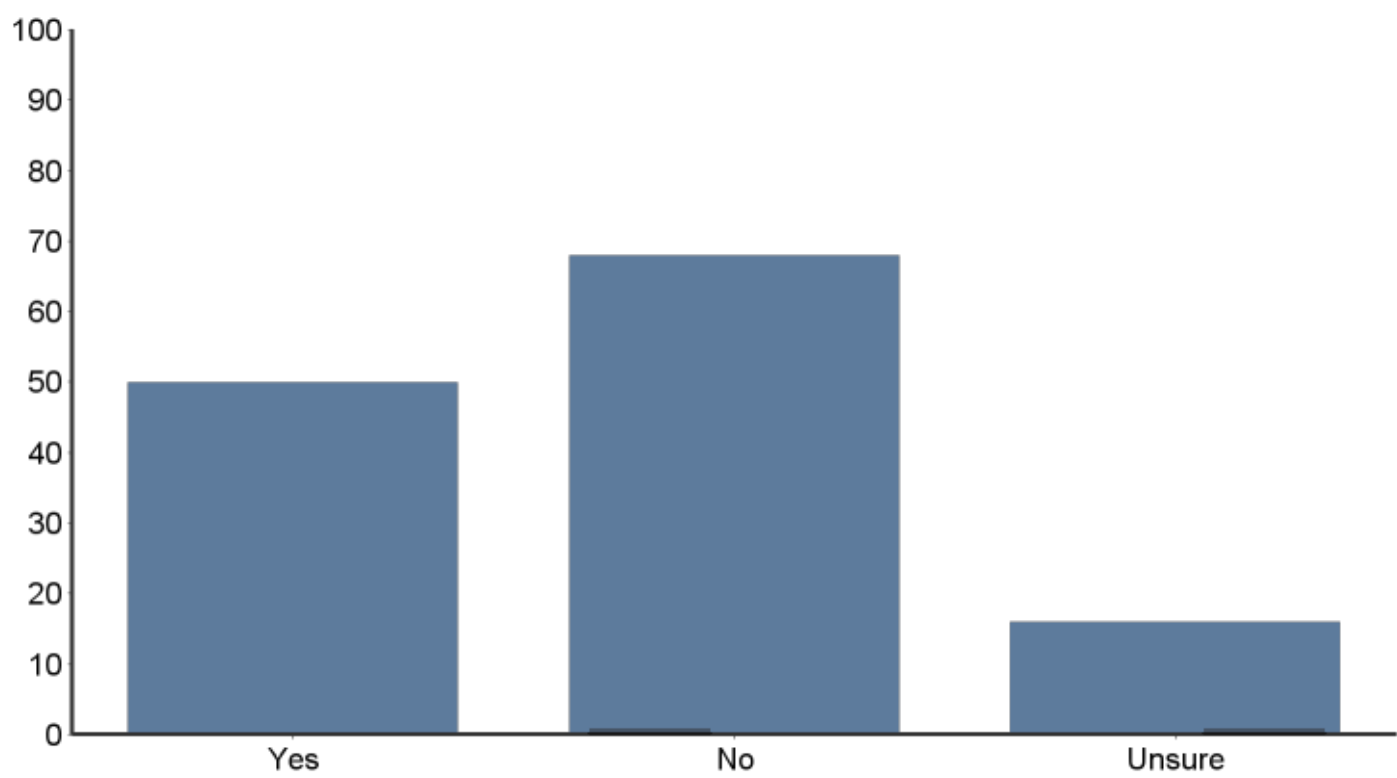
Does your curriculum educate students on the common public health interventions to protect the health of all ages and populations affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	42	31.58%
2	No	<div></div>	74	55.64%
3	Unsure	<div></div>	17	12.78%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.81	0.41	0.64	133	133

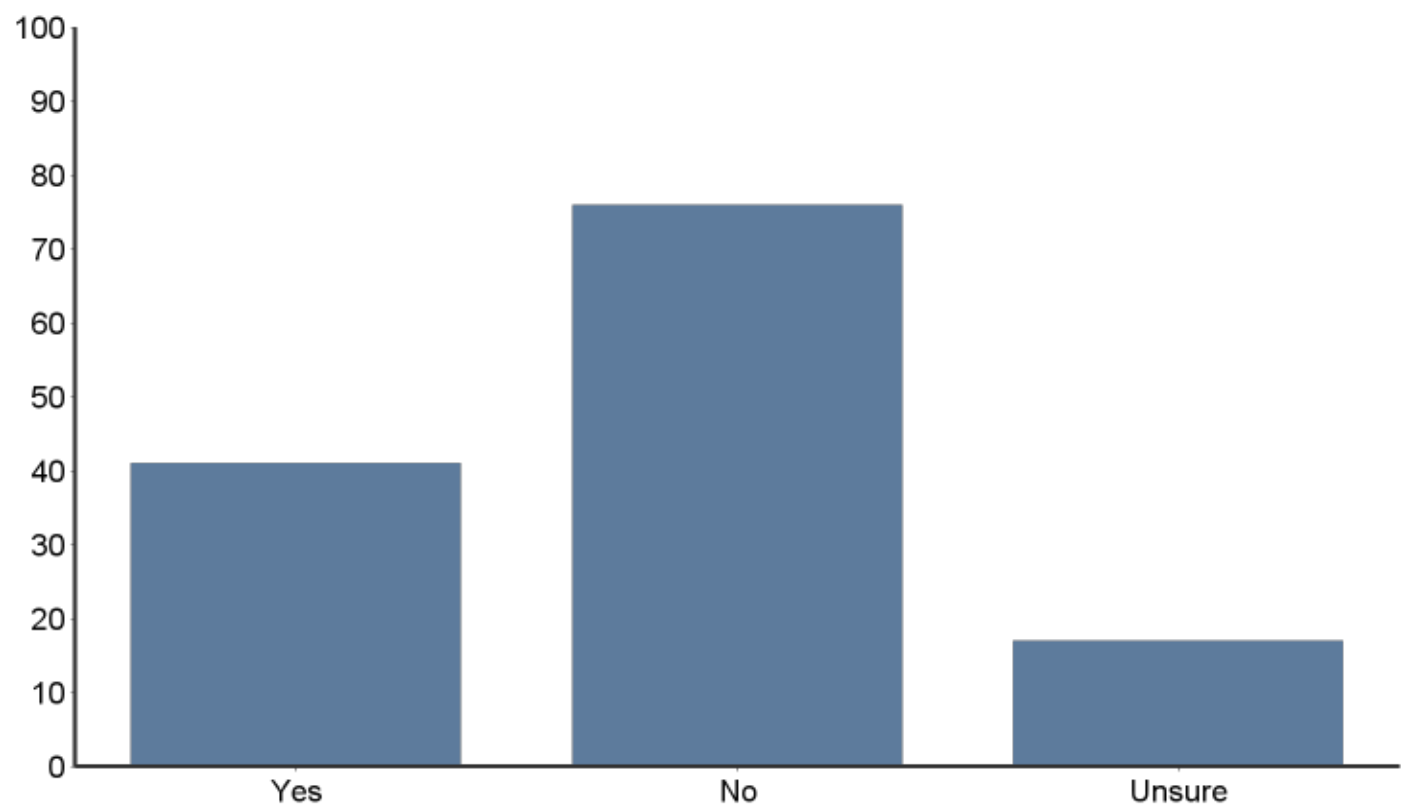
Does your curriculum educate students on ethical principles to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	50	37.31%
2	No	<div></div>	68	50.75%
3	Unsure	<div></div>	16	11.94%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.75	0.43	0.66	134	134

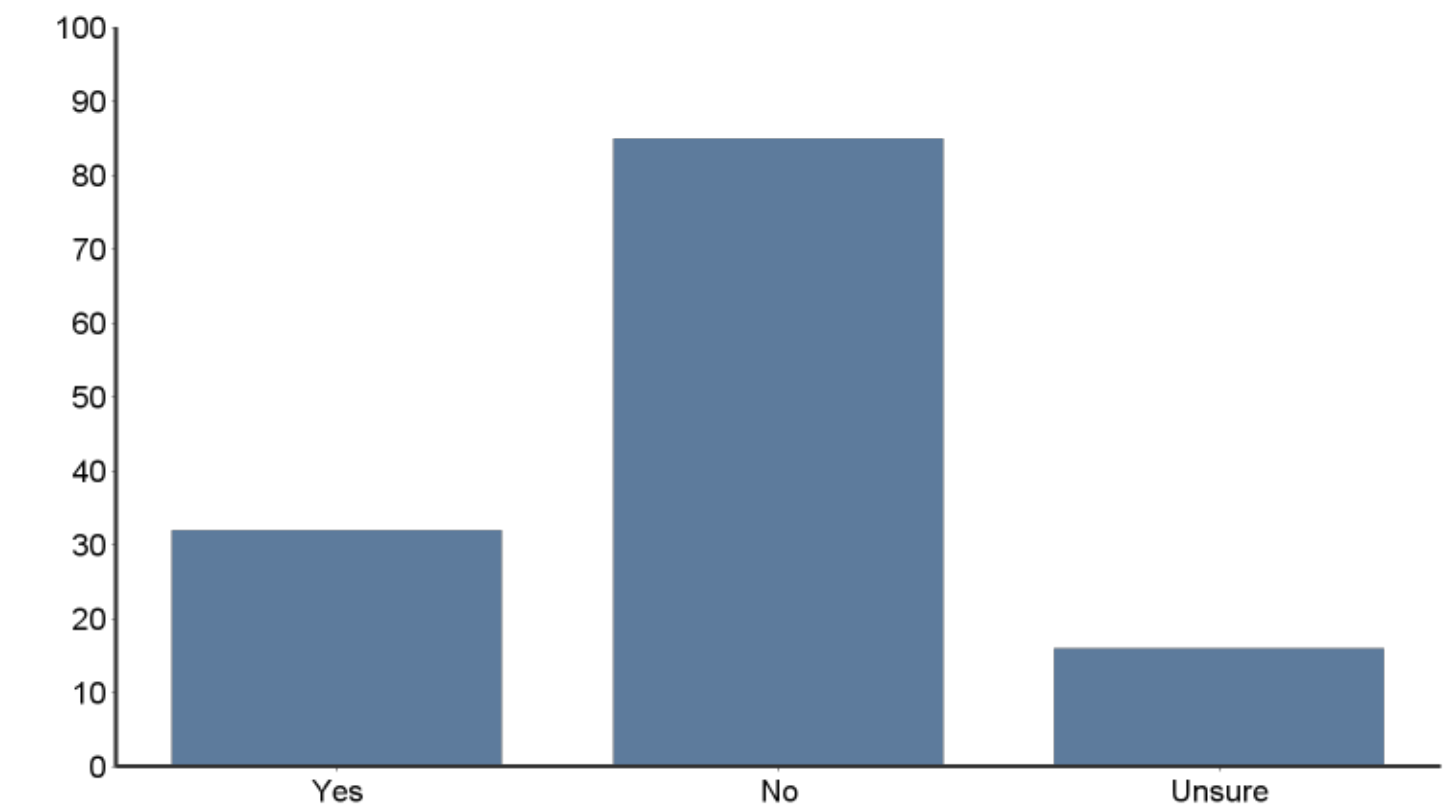
Does your curriculum educate students on the ethical issues likely to be encountered in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	41	30.60%
2	No	<div></div>	76	56.72%
3	Unsure	<div></div>	17	12.69%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.82	0.40	0.64	134	134

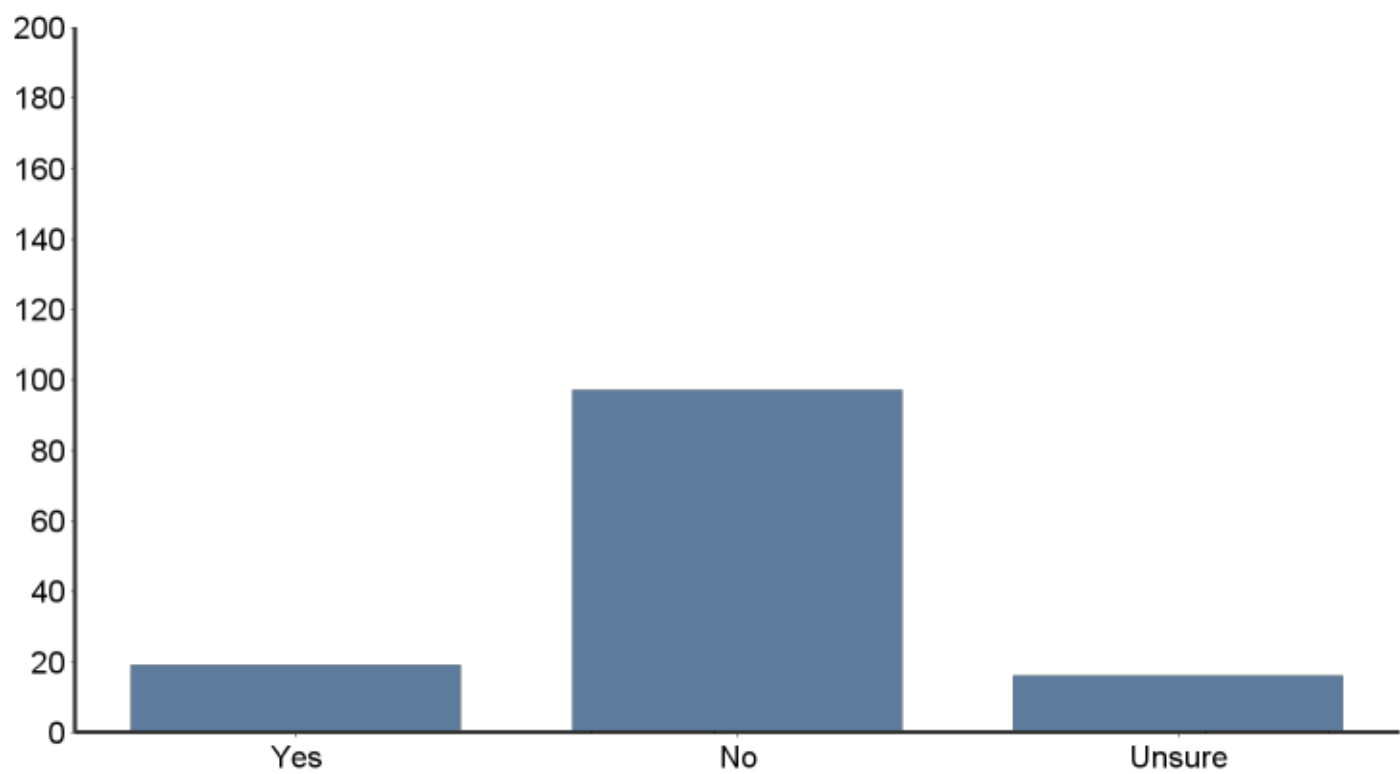
Does your curriculum educate students on the ethical issues and challenges associated with crisis standards of care in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	32	24.06%
2	No	<div></div>	85	63.91%
3	Unsure	<div></div>	16	12.03%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.88	0.35	0.59	133	133

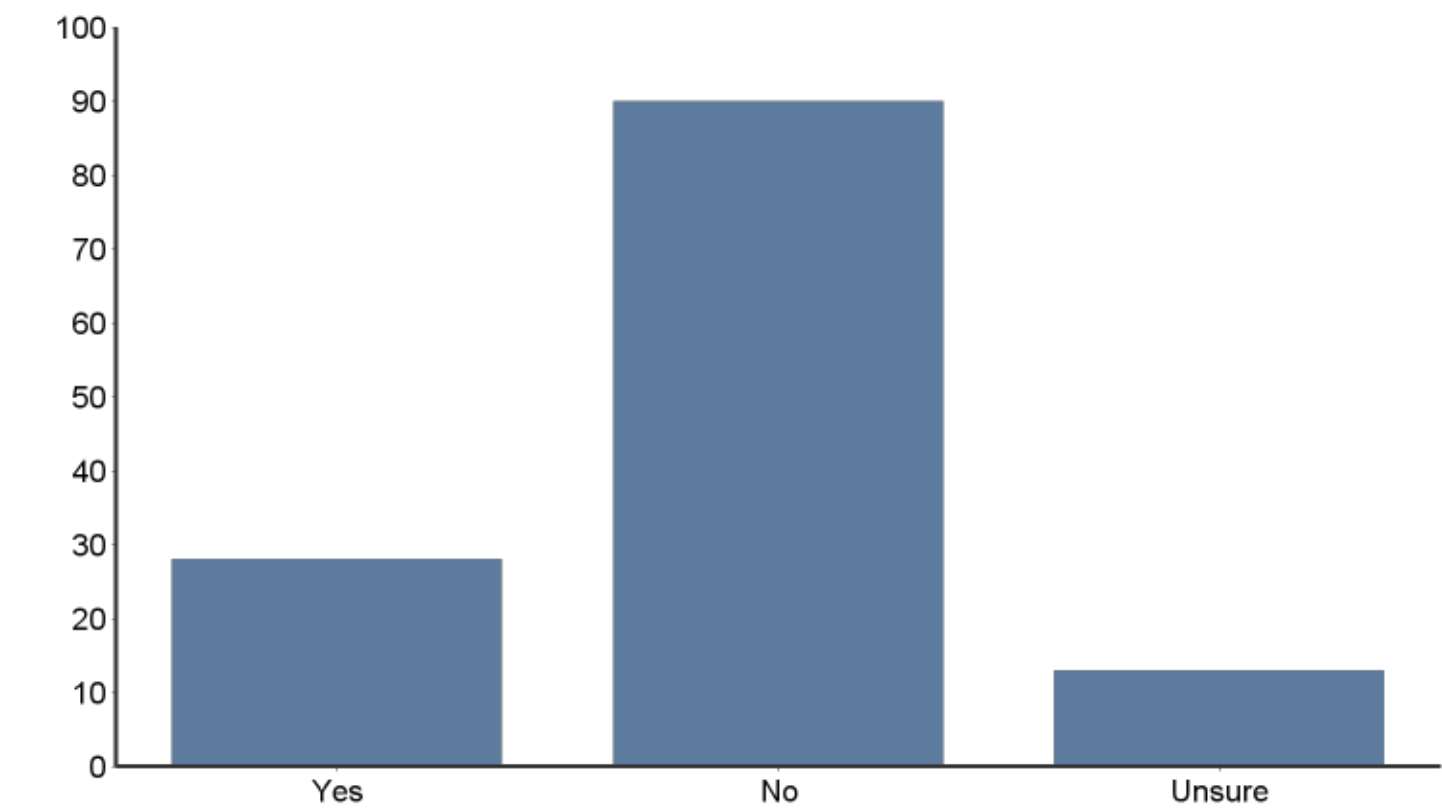
Does your curriculum educate students on the ethical issues and challenges associated with the allocation of scarce resources that may be implemented in a disaster or public health emergency? <?xml:namespace prefix = "o" ns = "urn:schemas-microsoft-com:office:office" />



#	Answer	Bar	Response	%
1	Yes	<div></div>	19	14.39%
2	No	<div></div>	97	73.48%
3	Unsure	<div></div>	16	12.12%
	Total		132	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.98	0.27	0.52	132	132

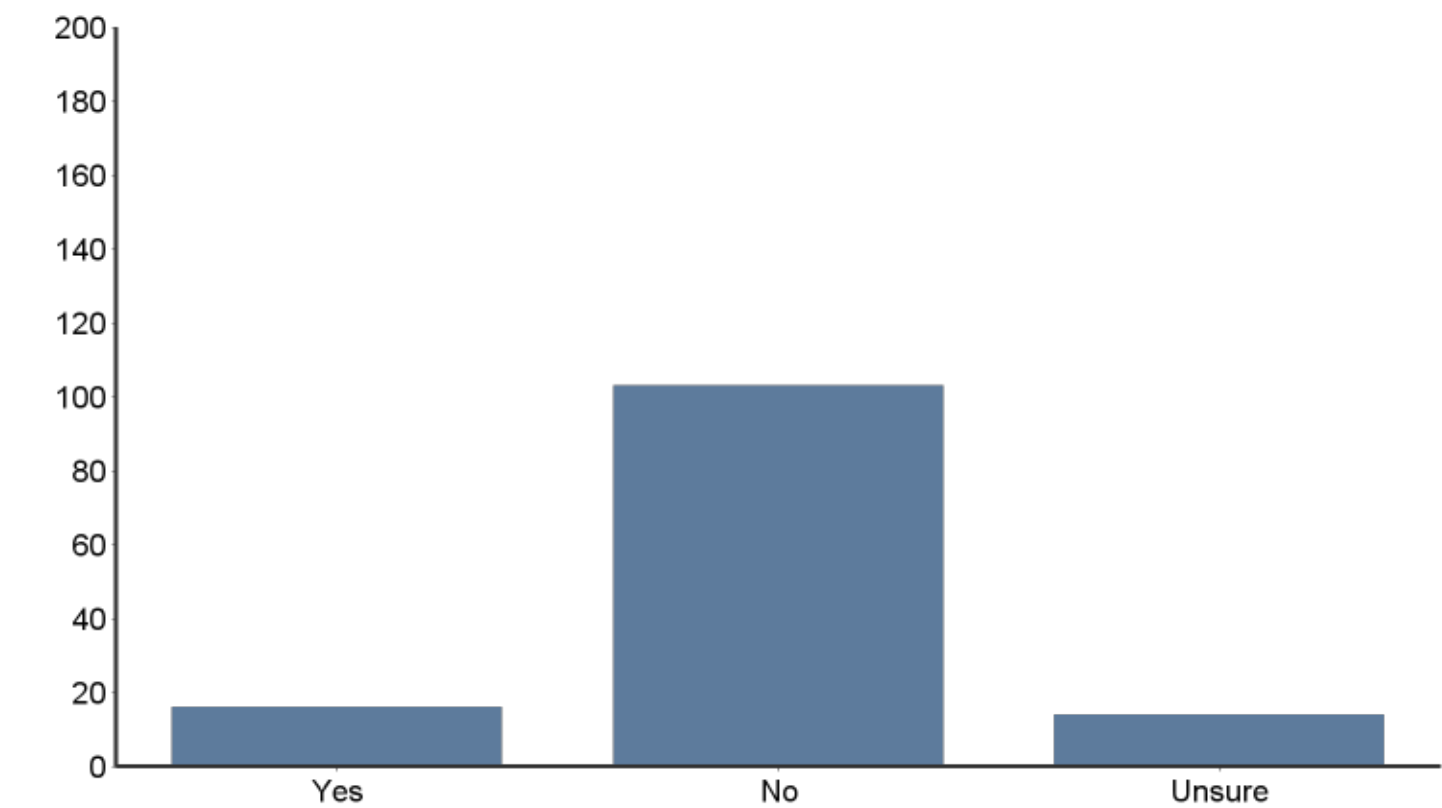
Does your curriculum educate students on legal principles to protect the health and safety of all ages, populations, and communities affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	28	21.37%
2	No	<div></div>	90	68.70%
3	Unsure	<div></div>	13	9.92%
	Total		131	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.89	0.30	0.55	131	131

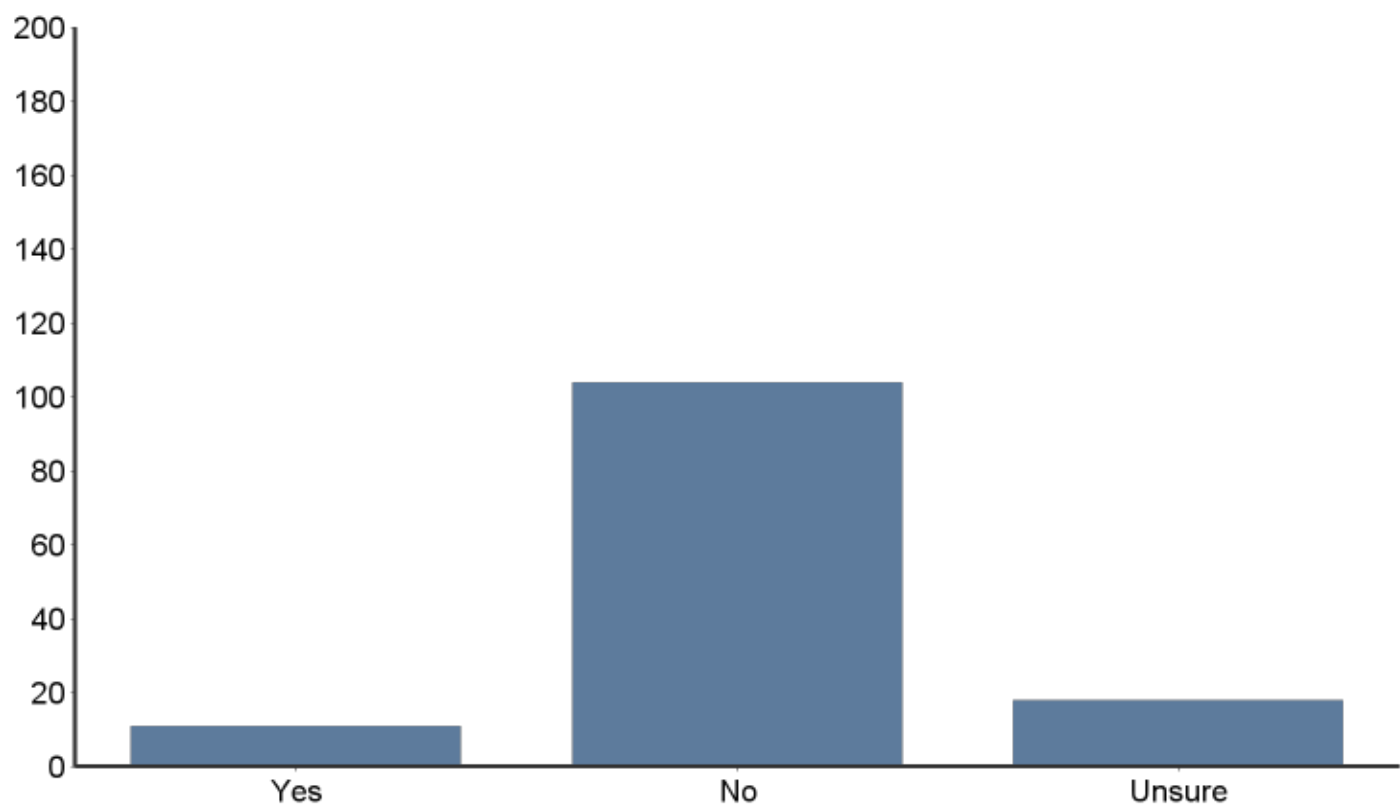
Does your curriculum educate students on legal and regulatory issues likely to be encountered in disasters and public health emergencies?



#	Answer	Bar	Response	%
1	Yes	<div></div>	16	12.03%
2	No	<div></div>	103	77.44%
3	Unsure	<div></div>	14	10.53%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.98	0.23	0.48	133	133

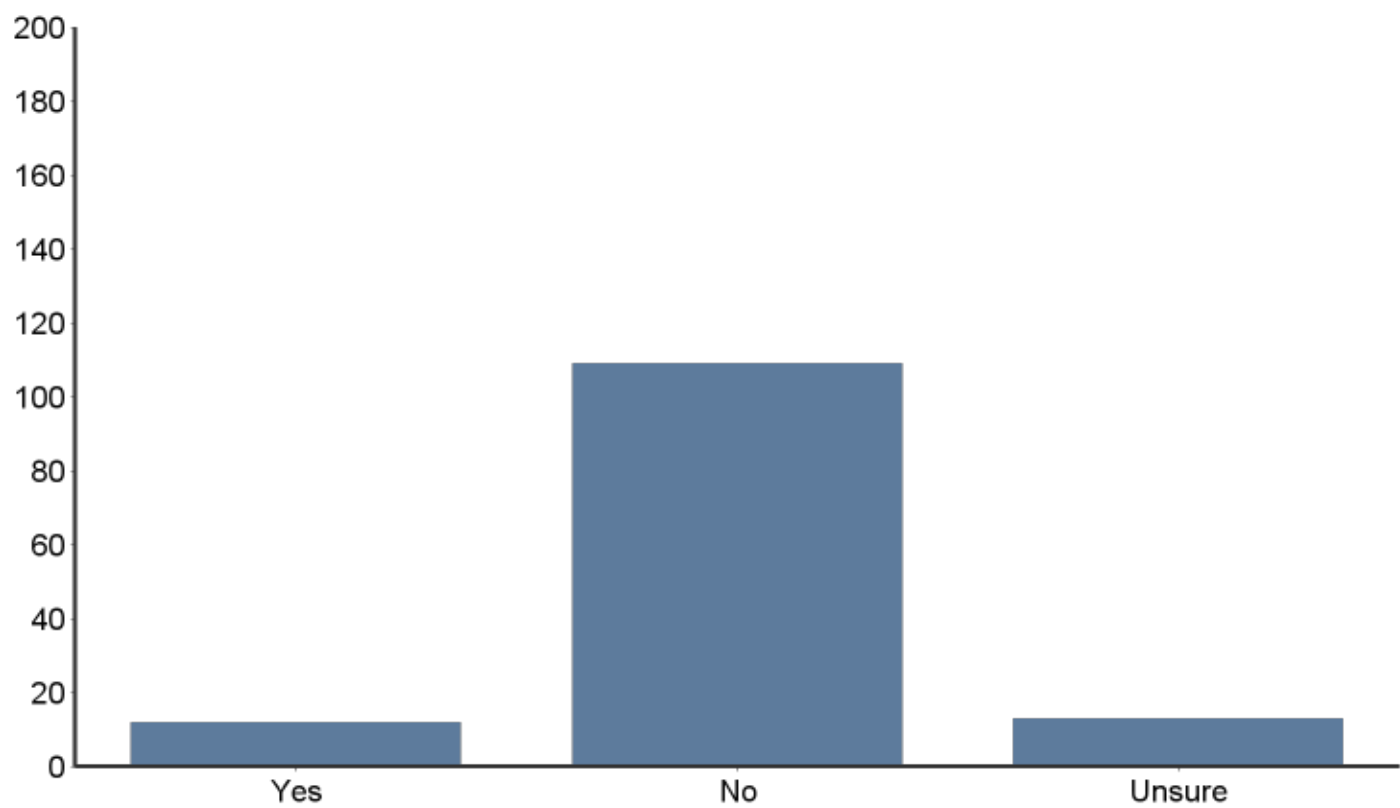
Does your curriculum educate students on the legal issues and challenges associated with crisis standards of care in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	11	8.27%
2	No	<div></div>	104	78.20%
3	Unsure	<div></div>	18	13.53%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.05	0.22	0.47	133	133

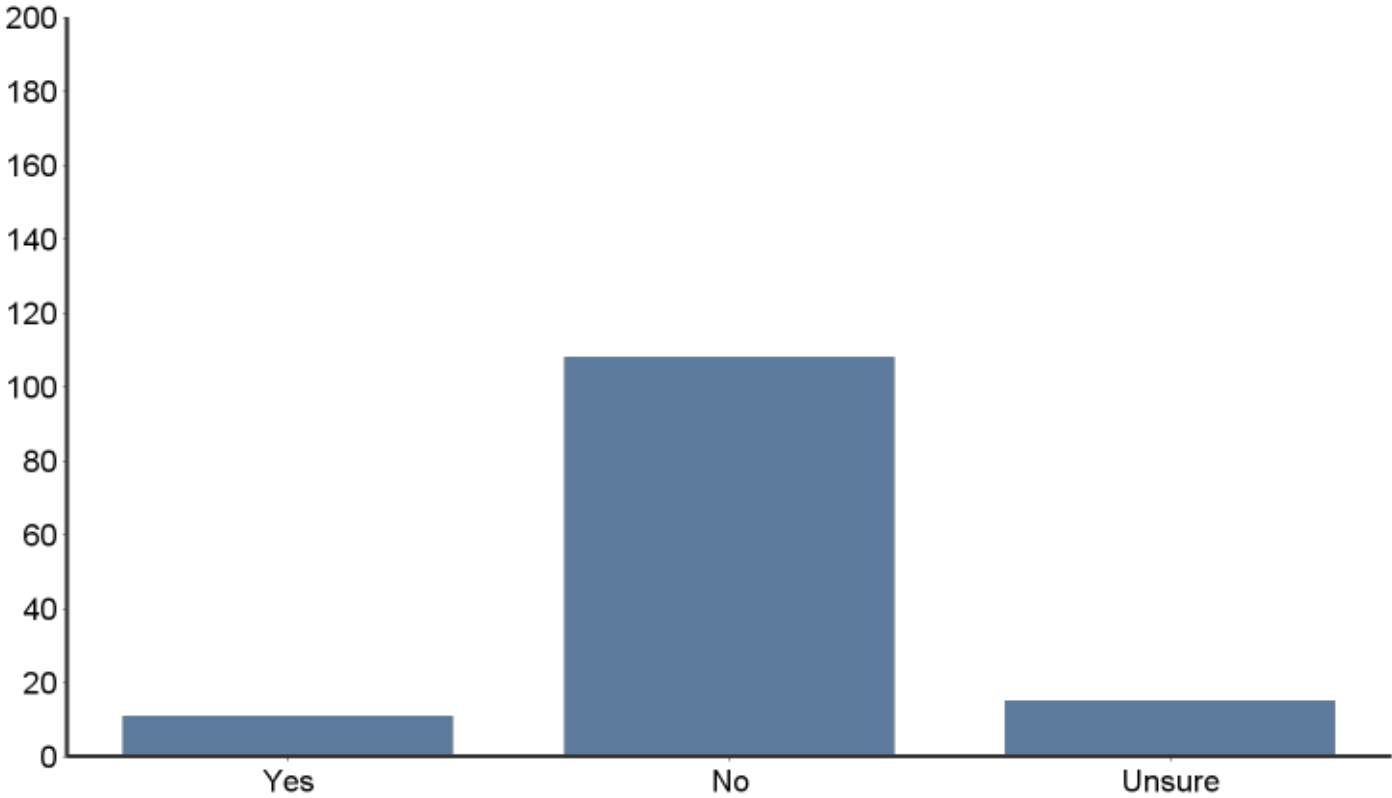
Does your curriculum educate students on the allocation of scarce resources implemented in a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	12	8.96%
2	No	<div></div>	109	81.34%
3	Unsure	<div></div>	13	9.70%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.01	0.19	0.43	134	134

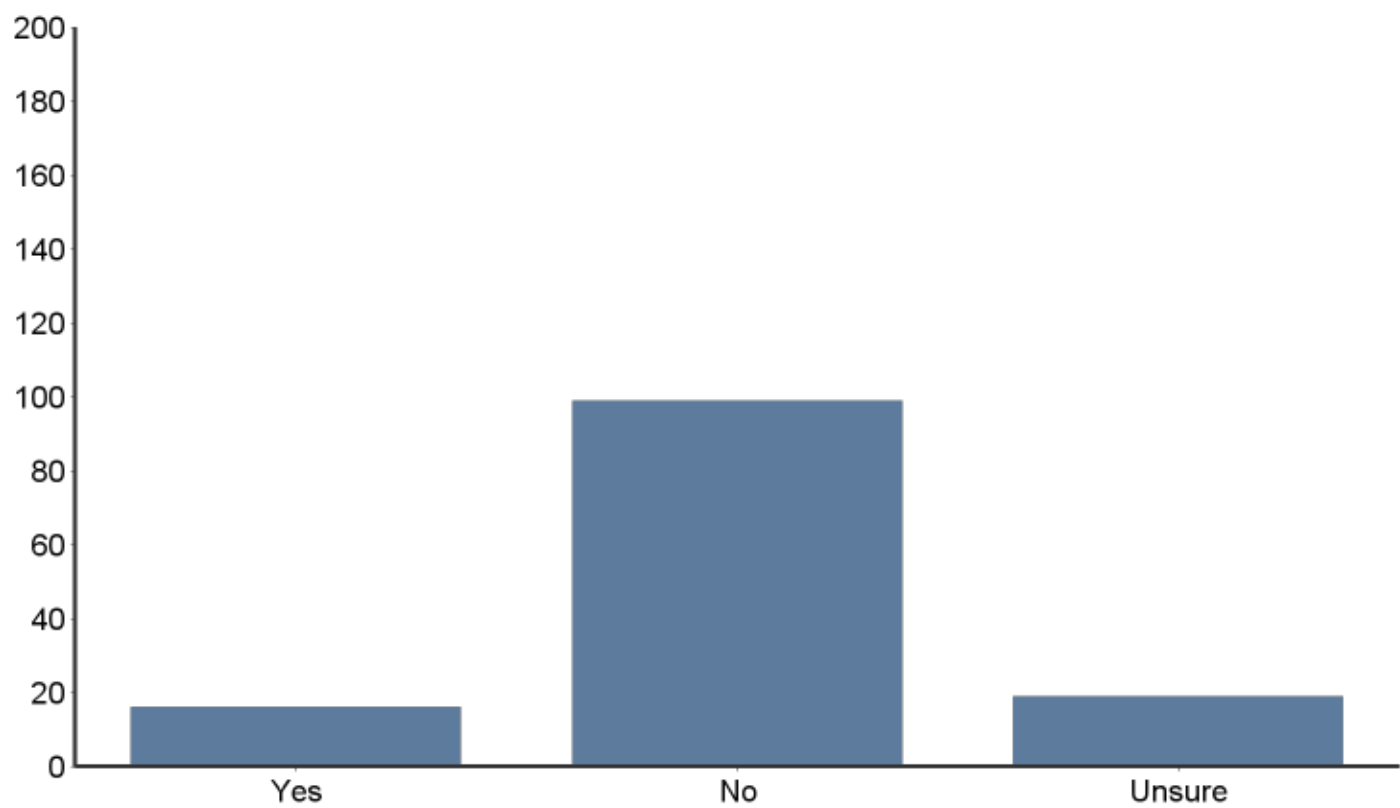
Does your curriculum educate students on legal statutes related to healthcare delivery that may be activated or modified under a state or federal declaration of disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	11	8.21%
2	No	<div></div>	108	80.60%
3	Unsure	<div></div>	15	11.19%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.03	0.19	0.44	134	134

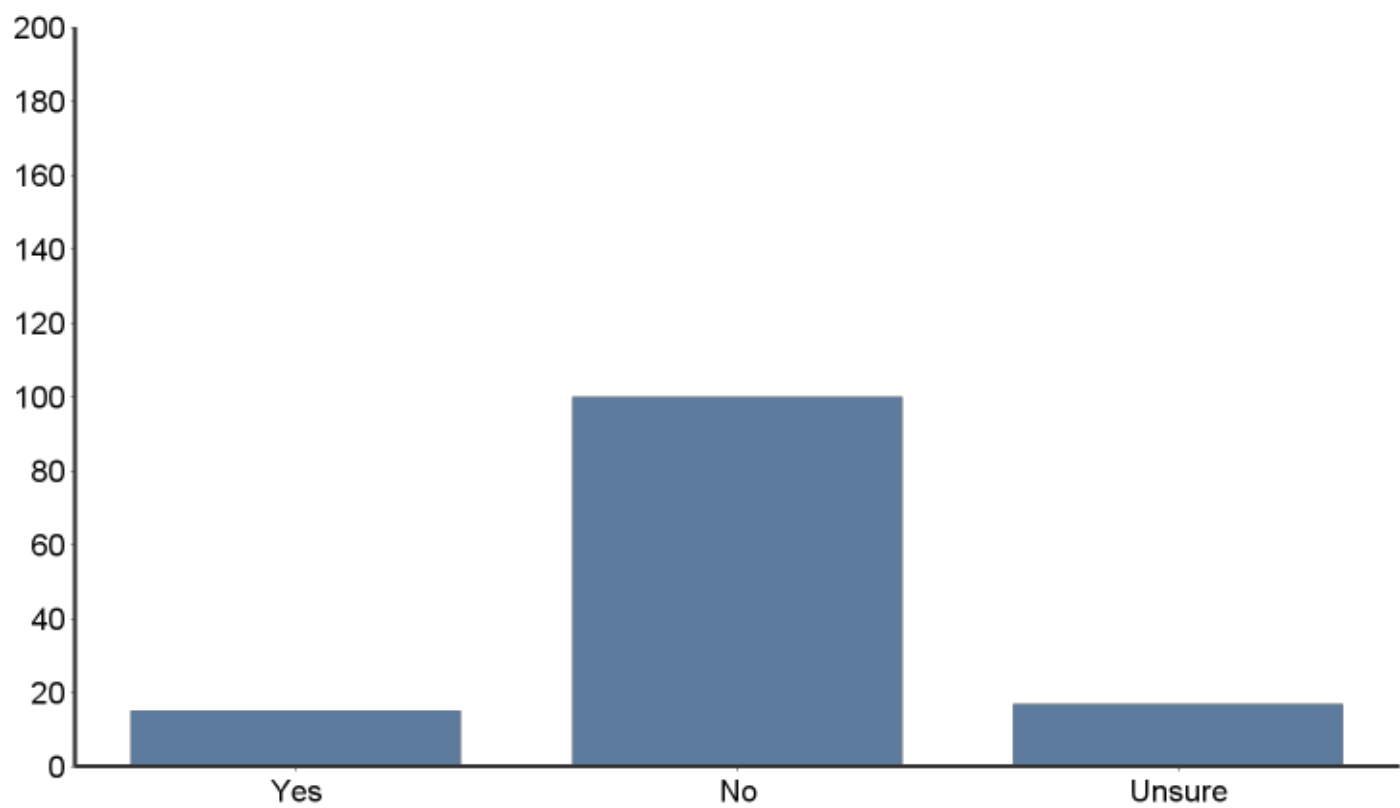
Does your curriculum educate students on short and long-term considerations for disaster recovery for all ages, populations, and communities affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	16	11.94%
2	No	<div></div>	99	73.88%
3	Unsure	<div></div>	19	14.18%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.02	0.26	0.51	134	134

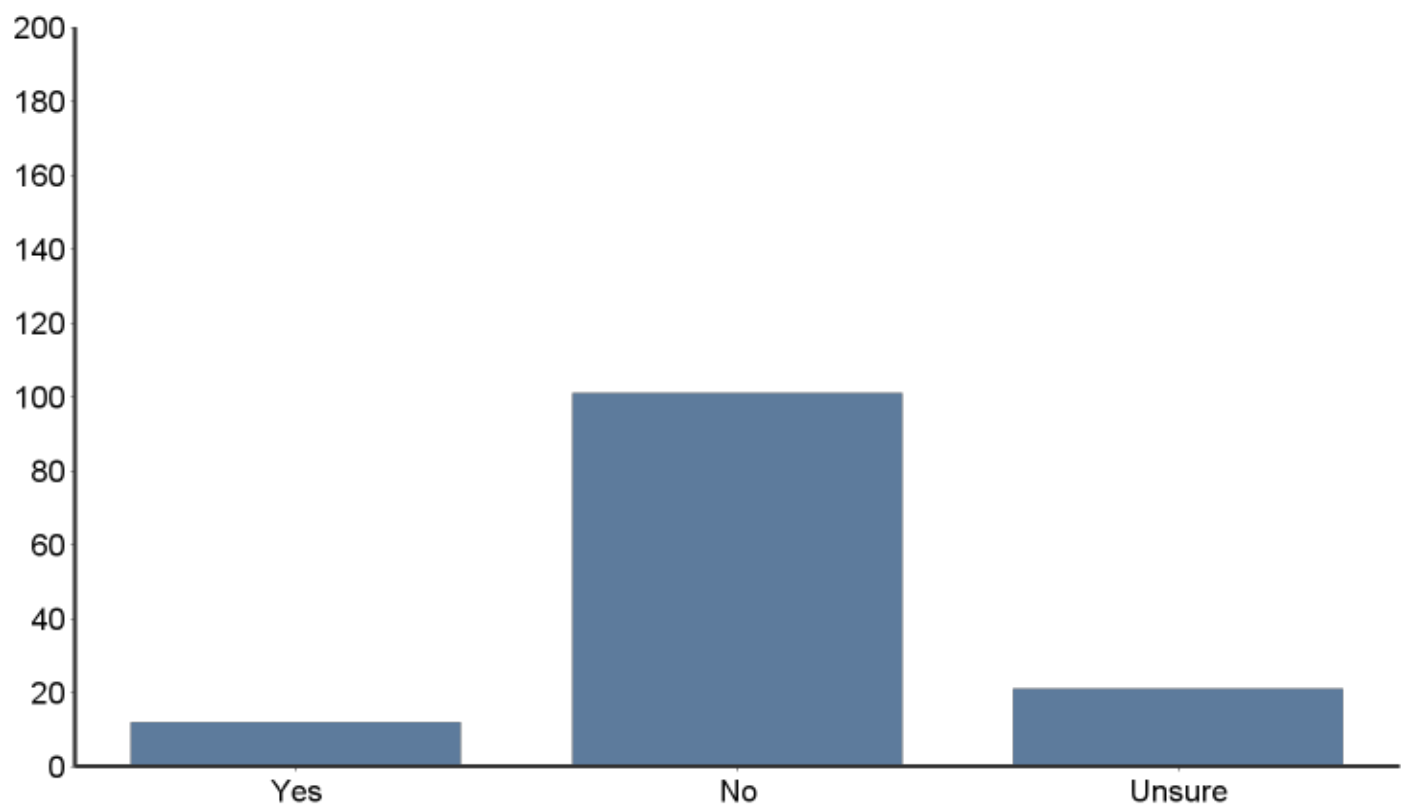
Does your curriculum educate students on clinical considerations and consequences during the disaster recovery phase of all ages and populations affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	15	11.36%
2	No	<div></div>	100	75.76%
3	Unsure	<div></div>	17	12.88%
	Total		132	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.02	0.24	0.49	132	132

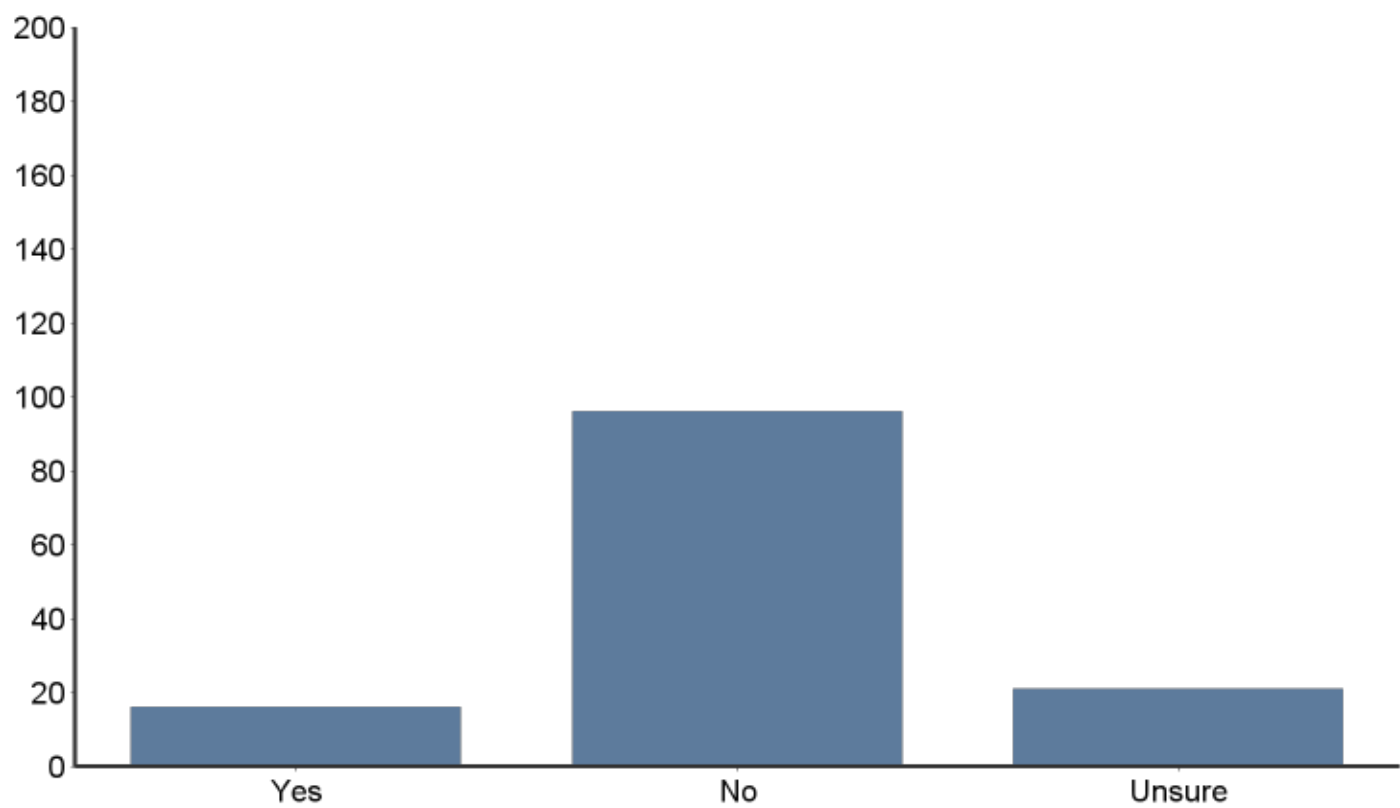
Does your curriculum educate students on the public health considerations and consequences during the disaster recovery phase of all ages and populations affected by a disaster?



#	Answer	Bar	Response	%
1	Yes	<div></div>	12	8.96%
2	No	<div></div>	101	75.37%
3	Unsure	<div></div>	21	15.67%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.07	0.24	0.49	134	134

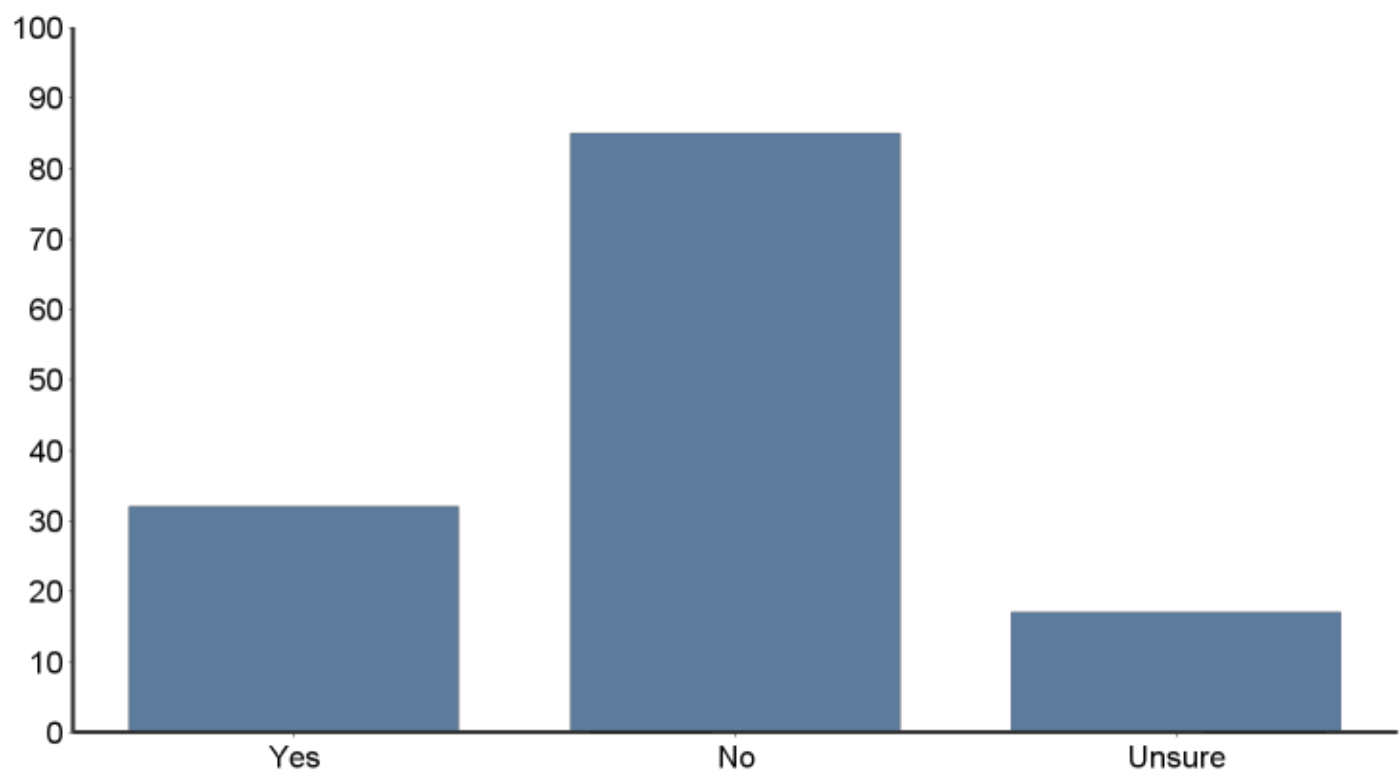
Does your curriculum educate students on strategies for increasing resilience of individuals and communities affected by a disaster or public health emergency?



#	Answer	Bar	Response	%
1	Yes	<div></div>	16	12.03%
2	No	<div></div>	96	72.18%
3	Unsure	<div></div>	21	15.79%
	Total		133	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	2.04	0.28	0.53	133	133

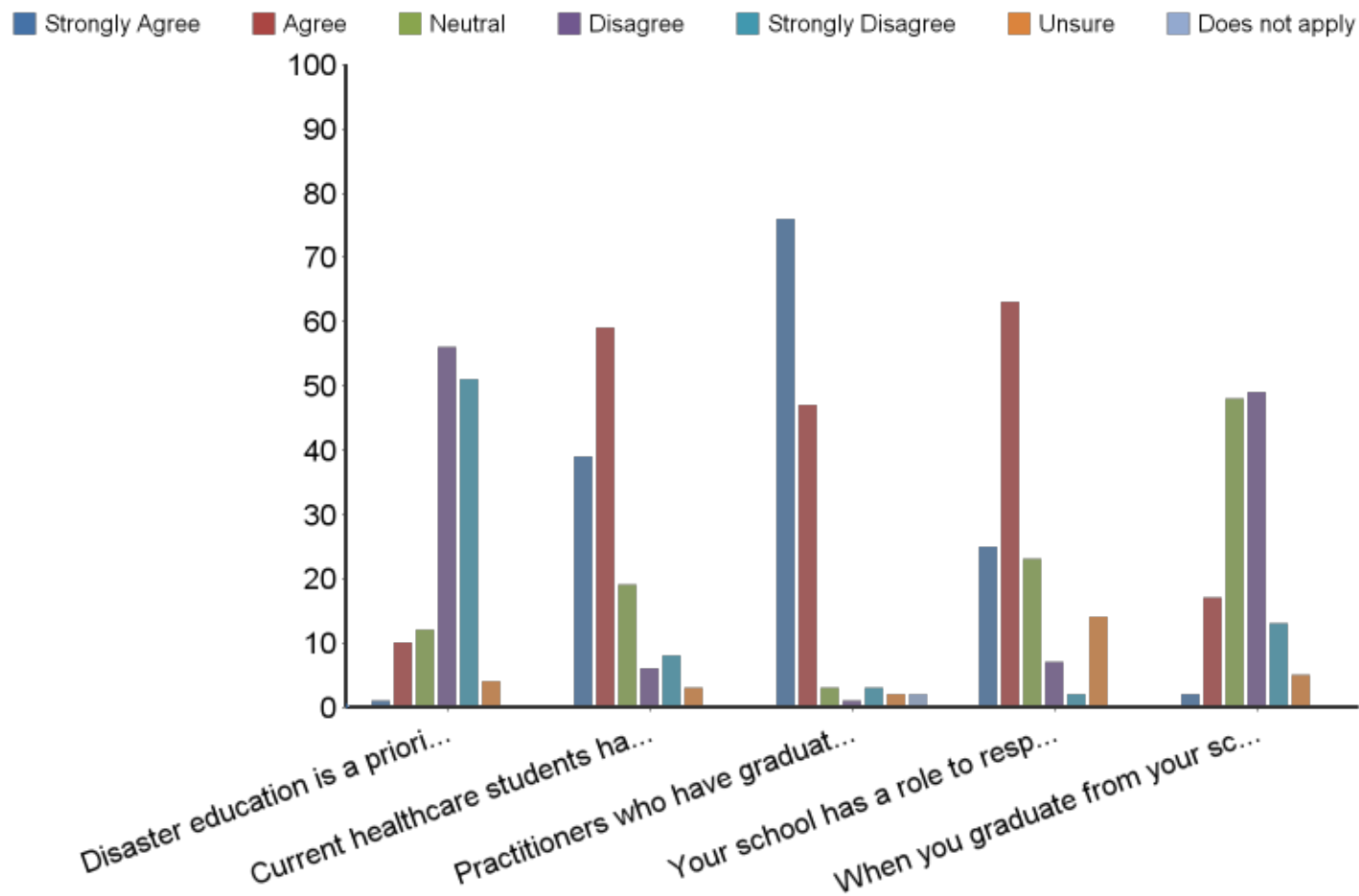
Does your curriculum educate students on the importance of monitoring the mental and physical health impacts of disasters and public health emergencies on first responders and their families? <?xml:namespace prefix = "o" ns = "urn:schemas-microsoft-com:office:office" />



#	Answer	Bar	Response	%
1	Yes	<div></div>	32	23.88%
2	No	<div></div>	85	63.43%
3	Unsure	<div></div>	17	12.69%
	Total		134	100.00%

Min Value	Max Value	Average Value	Variance	Standard Deviation	Total Responses	Total Respondents
1	3	1.89	0.36	0.60	134	134

Attitudes on Disaster Education for Healthcare Students



#	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Unsure	Does not apply	Response	Average Value
1	Disaster education is a priority in your curriculum.	1	10	12	56	51	4	-	134	4.18
2	Current healthcare students have a role in disaster response.	39	59	19	6	8	3	-	134	2.21
3	Practitioners who have graduated from an accredited program (Nurses or Physician Assistants) have a role	76	47	3	1	3	2	2	134	1.67
4	Your school has a role to respond in a local disaster.	25	63	23	7	2	14	-	134	2.55
5	When you graduate from your school, you will be well equipped to respond to a disaster.	2	17	48	49	13	5	-	134	3.51

Statistic	Disaster education is a priority in your curriculum.	Current healthcare students have a role in disaster response.	Practitioners who have graduated from an accredited program (Nurses or Physician Assistants) have a role in disaster response.	Your school has a role to respond in a local disaster.	When you graduate from your school, you will be well equipped to respond to a disaster.
Min Value	1	1	1	1	1
Max Value	6	6	7	6	6
Mean	4.18	2.21	1.67	2.55	3.51
Variance	0.93	1.47	1.33	2.08	1.02
Standard Deviation	0.96	1.21	1.16	1.44	1.01
Total Responses	134	134	134	134	134
Total Respondents	134	134	134	134	134

Acute Allocation Answers Apply Area Based Basic Bit Briefly Care Carry Change Class Clinical Completed Courses Coursework Covered Curriculum Degree Didactic Difficult

Directly **Disaster** Disease Double Education Education Emergency Emotional Emptying Ethics Facility Feel Finished Fire Future Health

Healthcare Helpful Honestly Hospital Impact Included Infectious Information Injury Intervene Involved Issues Kind Knowledge Learned Lecture Lot Major Mass Material Medicine

Mental Mentioned Of Part Passing Precautions Prepared Preparedness Prevention Priority Protocols Provided Psychology Pt Public Relation Respond Response Role Relation School

Semester Services Setting Situation Special Specific Specific Standpoint Student Takes Talked Taught Things Threats Time Topic Touched Triage Type Undergrad Year

Text Entry

Disaster management is not something I feel we have learned much about nor do I feel prepared if I were to be present during a disaster situation.

When you ask if we agree with our school having a role to respond in a local disaster, do you mean that if something occurred would the school intervene? Or are you asking if the school has a role in preparing us to intervene?

We have covered issues such as infectious disease and prevention. Another topic we covered briefly was emptying a hospital during a fire and who takes priority and what should be done. We have never specifically talked about disasters and public threats, but I am sure some of the information we have learned will carry over and be helpful in that kind of situation.

While there is no specific disaster preparedness course available, other course such as Community and Critical Care help develop skills that can be used in disasters such as epidemiology studies and ACLS

Since we are not finished with coursework, I am not sure of many answers--we may get some of that during special topic courses; however, I cannot be sure at this time. I have learned many of these protocols, especially specific to allocation of healthcare services and my role as a PT in situations of mass injury and need for hospitalization, through the acute care hospital I had my first clinical rotation.

During the curriculum, we have never been taught anything in regards to how to respond to a natural disaster. We are only taught what to do whenever we are given the proper amount of medical supplies, in a clean office or hospital, with medicine readily available.

Honestly, we haven't learned really much at all about this type of preparedness. I only know things from what has been mentioned in passing or that has been mentioned in my Health Care Ethics course from undergrad.

If there was a disaster right now, from at OT student standpoint I would not know what to do because we are not educated on it. I am a double major and with my psychology degree in one of our classes we briefly talked about disasters and the mental and emotional impact it'd have but that's about it

Disaster response is not a part of our curriculum. OT is also not involved in much emergency situations so it is difficult for these to apply

A lot of the knowledge about disaster education was provided before being a healthcare student. We do not have one lecture that directly covers disaster education

Statistic	Value
Respondents	14